Jaguar III series
User Manual

Great Computer Corporation ©

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NOTICE

GCC reserves the right to modify the information contained in this user manual at any time without prior notice; un-authorised modification, copying distribution or display is prohibited. All comments, queries or suggestions concerning this manual please consult with your local dealer.

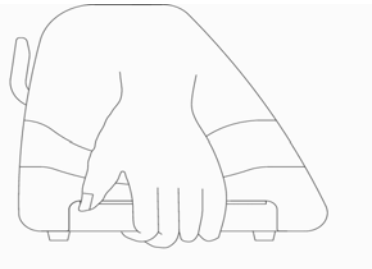
Important Information

Thank you for purchasing the ***SignPal Series – Jaguar III Cutting Plotter.***
Before you use the cutting plotter, please make sure that you have read the safety precautions and instructions below.

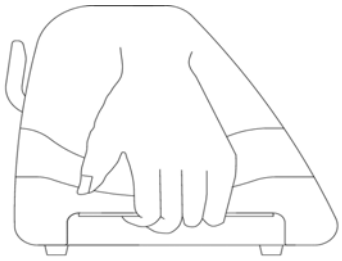
Caution

SAFETY PRECAUTIONS!

- For safety concern, please always hold the cutter firmly **from the bottom** while moving it. Do not move the cutter by clasping the depression area on both sides.



O (correct)



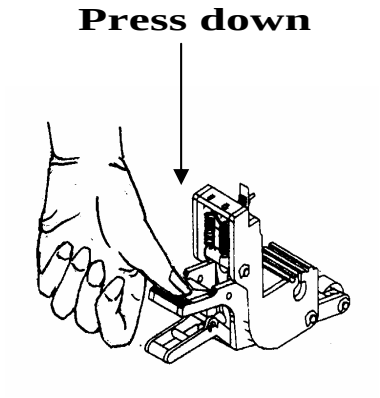
X (Incorrect)

- Do not shake or drop the blade holder, a blade tip can fly out.
- During an operation, do not touch any of the moving parts of this machine (such as the carriage). Also be careful to make sure that clothing and hair do not get caught.
- Always connect the power cable to a grounded outlet.
- Always use the accessory power cablewhich is provided. Do not wire the power cable so that it becomes bent or caught between objects.
- Do not connect the power cable to branching outlet to which other machines are also connected, or use an extension cable. There is danger of overheating and of mis-operation of the machine.
- Keep the tools away from children where they can reach.
- Always put the pinch rollers within the white marks.

Warning

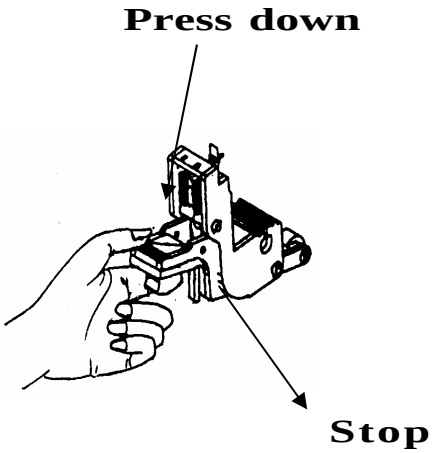
Never press the top release grip and pull the bottom release grip at the same time as the pictures shown below:

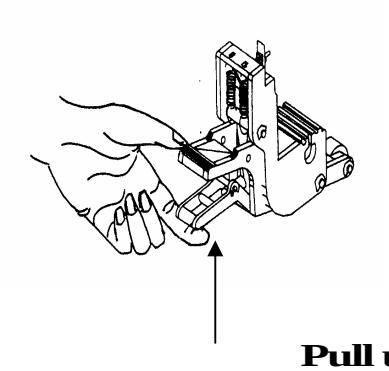
○ **(CORRECT)**



DISABLE

× **(INCORRECT)**





ENABLE

Note:

In case the grips clipped together due to your wrong operation, please use a tweezers to pull out the stop bar when pressing down the top release grip. Keep the stop bar outside then release

Figure 0-3

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1. General Information

1.1 Introduction

Jaguar III series cutting plotters have been designed to produce computer-generated images or perform contour cutting on sheets or rolls of vinyl media.

This manual covers the following models of Jaguar III series cutting plotters:

• JA-61	for media width: 50mm(1.97”) ~ 770mm(30.3”)
• JA-76S	for media width: 50mm(1.97”) ~ 920mm(36.2”)
• JA-101S	for media width: 50mm(1.97”) ~ 1270mm(50”)
• JA-132S	for media width: 50mm(1.97”) ~ 1594mm(62.7”)

1.2 Package Items

The package of the Jaguar III model contents the items listed below, please check carefully. If you find any item missing, please consult your local dealer for further assistance.

<table>
<tr><th>Standard Item</th><th>Quantity</th></tr>
<tr><td>1. Cutting Plotter</td><td>1</td></tr>
<tr><td>2. Stand Set (for JA-76S/101S/132S only)
● 1 piece of H-shape stand
● 2 pieces of stands
● 1 piece of stand beam</td><td>1</td></tr>
<tr><td>3. Flexible Media Support System Package
<table>
<tr><th>items</th><th>132S/101S/76S</th><th>61</th></tr>
<tr><td>1 set of Roll Media Flange (2 pieces)</td><td>☐</td><td>☐</td></tr>
<tr><td>1 set of Roll Holder (2 pieces)</td><td>☐</td><td>☐</td></tr>
<tr><td>1 set of Roll Holder Guide Bushes (4 pieces)</td><td>☐</td><td>☐</td></tr>
<tr><td>1 set of Roll Holder Support (2 pieces)</td><td>☐</td><td>☐</td></tr>
<tr><td>24 pieces of M6 screws</td><td>☐</td><td></td></tr>
<tr><td>1 piece of M5 L-shape hexagon screw driver</td><td>☐</td><td>☐</td></tr>
<tr><td>1 piece of M6 L-shape hexagon screw driver</td><td>☐</td><td>☐</td></tr>
<tr><td>4 pieces of Hold Plugs</td><td>☐</td><td></td></tr>
<tr><td>1 set of Desktop Support Brackets (2 pieces)</td><td></td><td>☐</td></tr>
<tr><td>4 pieces of Plastic Foot</td><td></td><td>☐</td></tr>
<tr><td>4 pieces of M4 screws</td><td></td><td>☐</td></tr>
<tr><td>12 pieces of M6 screws</td><td></td><td>☐</td></tr>
<tr><td>1 piece of M4 L-shape hexagon screw driver</td><td></td><td>☐</td></tr>
</table>
</td><td>1</td></tr>
</table>

4. Accessory Bag ● 1 piece of **User's Compact Disk** ● 1 piece of **AC power Cord** ● 1 piece of **data cable** (RS-232C or print cable) ● 1 set of **Blade Holder Assembly** ● 1 piece of **Blade** ● 1 piece of **Paper Sliter** ● 1 piece of **Cutting Pad for Vinyl cutting** ● 1 Coil of **Cutting Pad for paper cutting** ● 1 piece of **Tweezers** ● 1 piece of **Water-based Fiber-tip Pen** ● 1 piece of Black Vinyl	**1**

1.3 Product Features

The following are the main features of the Jaguar III series cutting plotters:

- Tri-port connectivity provides you with greater flexibility.
- Up to 4.2g acceleration.
- Up to 600-gram cutting force.
- Up to 60-inch/per second cutting speed.
- Guaranty 10-meter tracking.
- User friendly, multi-language control panel
- ingenious media basket.
- Enhanced Accu-Aligning System for contour cutting.

1.4 Appearance of Jaguar III

1.4.1 The Front View (Figure 1-1)

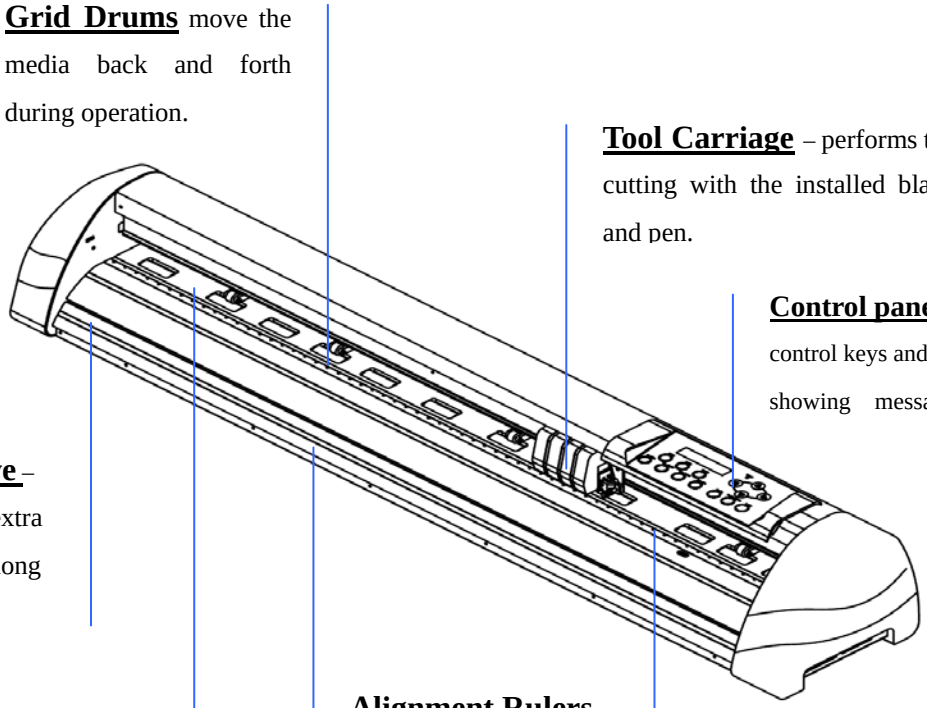

Grid Drums move the media back and forth during operation.
Tool Carriage – performs the cutting with the installed blade and pen.
Control panel – consists of 14 control keys and 1 LED and 1 LCM showing messages and menus.
SliterGroove – sheets off the extra media easily along this groove.
Platen - provides the surface for holding and supporting media while performing cutting
Alignment Rulers - Media can be aligned with the clear guide line marks
Cutting Pad – provides the protection of blade when the blade is cutting.

Figure 1-1

1.4.2 The Back View (Figure 1-2)

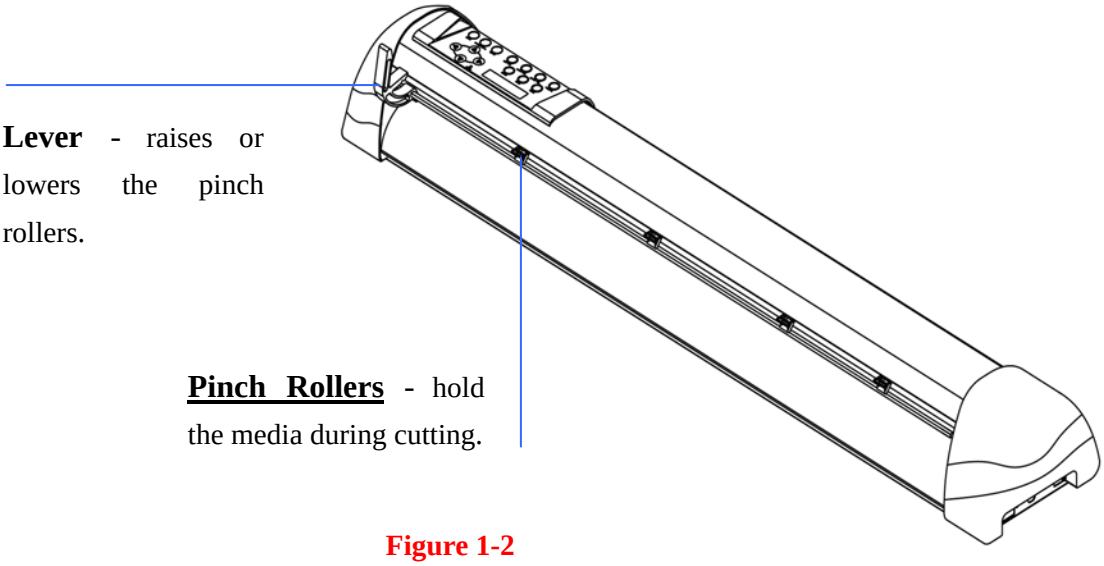


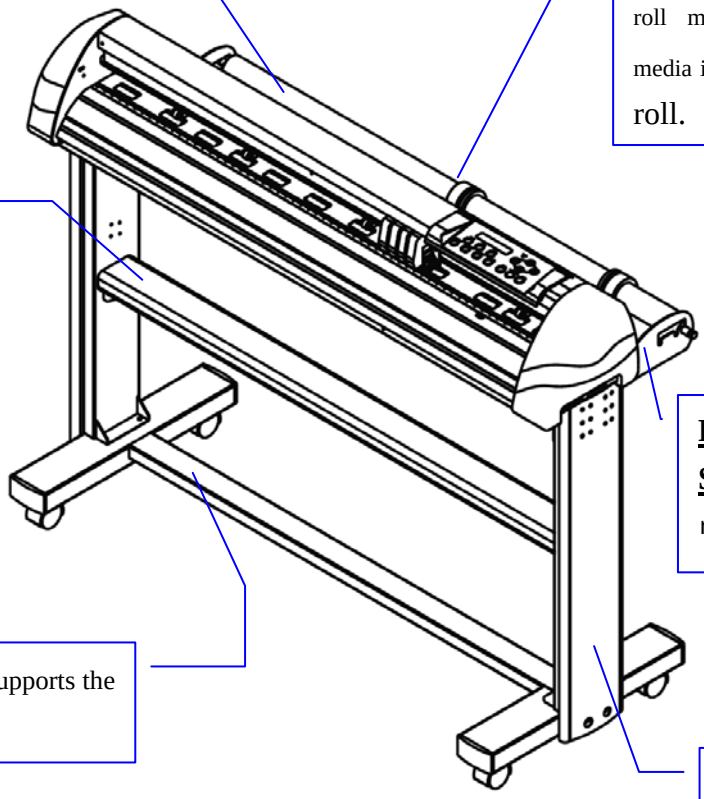
Figure 1-2

1.4.3 The Whole View (Figure 1-3)

Roll Holder - Holds and supplies the roll media for cutting.

Roll Holder Guide Bushes - Serve to keep the roll media in place when media is pulled from the roll.

Stand Beam – stabilizes the body.



Roll Holder Support – supports roll holders

H-shape Stand – Supports the cutting plotter body.

Stand - Supports the cutting plotter body.

Figure 1-3

1.4 4 The Left-hand Side (Figure 1-4)

Power Switch – On when switches to [I]; Off to [O]

Fuse – 3 Amp.

AC Power Connector – used to insert the AC power cord.

Figure 1-4

1.4.5 The Right-hand Side (Figure 1-5)

Serial Interface Connector (RS232C) – used to connect the cutting plotter to a computer through a serial interface cable.

USB Connector- used to connect the cutting plotter to a computer through a USB cable.

Parallel Interface Connector – used to connect the cutting plotter to a computer through a parallel interface cable

Figure 1-5

2. Installation

2.1 Precaution

Please read below information carefully before you start installation.

Notice 1

- Make sure the power switch is off before installing the cutting plotter.
- Carefully handle the cutter to prevent any injuries.

Notice 2 Choosing a proper place before setting up the cutting plotter

Before installing your cutting plotter, select a suitable location, which meets the following conditions.

- The machine can be approached easily from any direction.
- Keep enough space for the machine, accessories and supplies.
- Keep the working area stable, avoiding sever vibration.
- Keep the temperature between ***5 and 40℃(41-104°F)*** in the workshop.
- Keep the relative humidity between ***30% and 70%*** in the workshop.
- Protecting the machine from dust and strong air current.
- Preventing the machine from direct sunlight or extremely bright lighting.

Notice 3 Connecting the Power Supply

Check the plug of the power cord to see if it mates with the wall outlet. If not, please contact your dealer.

- Insert the plug (male) into a grounded power outlet.
- Insert the other end (female) of power cord into the AC connector of cutting plotter.

2.2 Stand & Flexible Media Support System

Step 1

Please examine supplied items in the accessory box of stand carton:

- 1 piece of M6 L-shape hexagon screw driver
- 1 piece of M5 L-shape hexagon screw driver
- 24 pieces of M6 screws
- 4 pieces of hold plugs

Step 2

- Remove the plotter body and the accessories from the shipped carton.
- Place the stands upright on the H-stand and follow the number (((to assemble.

(See Figure 2-1 & 2-2)

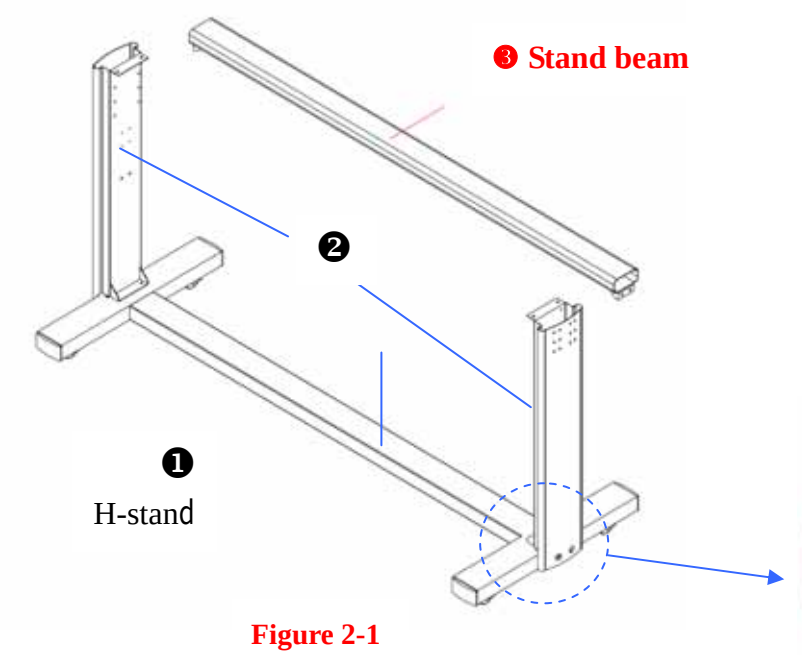


Figure 2-1

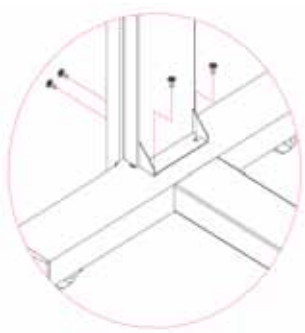


Figure 2-2

Step 3

Then, connect Part❷ and (. Insert 4 screws into the holes on H-stand and fasten them as shown in Figure 2-2.

Step 4

Position the stand beam perpendicularly to part (and put the screws into the holes and tighten them as Figure 2-3. Then the complete picture of stand will be like Figure 2-4.

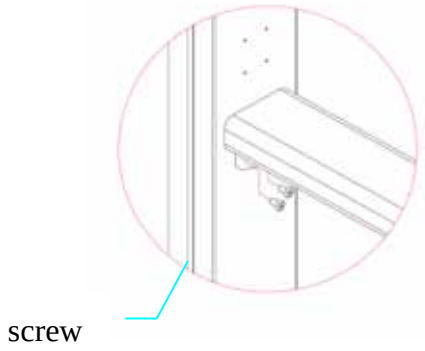


Figure 2-3

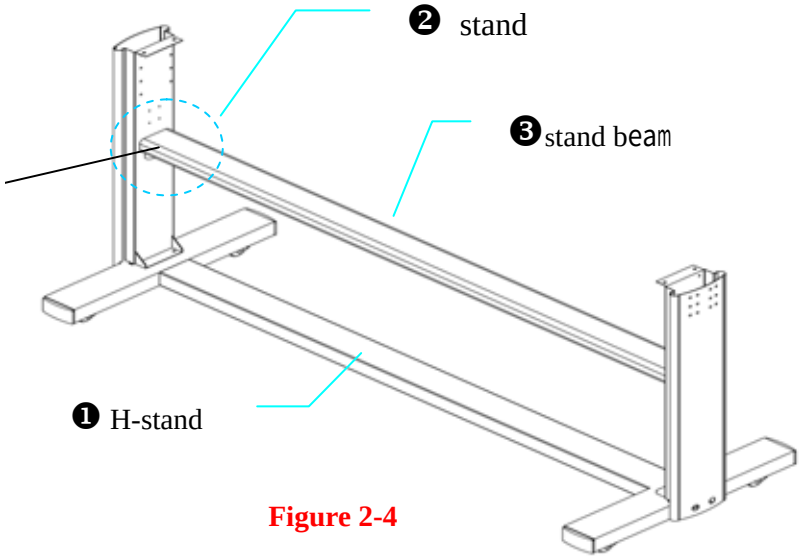


Figure 2-4

Step 5

Remove the cutting plotter from the carton. Position your stand under the plotter, and then insert the screws into the holes on plotter's bottom and tighten them up as shown in Figure 2-5.

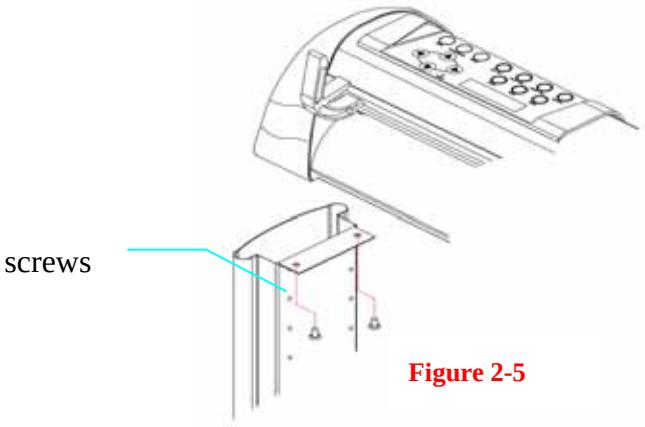


Figure 2-5

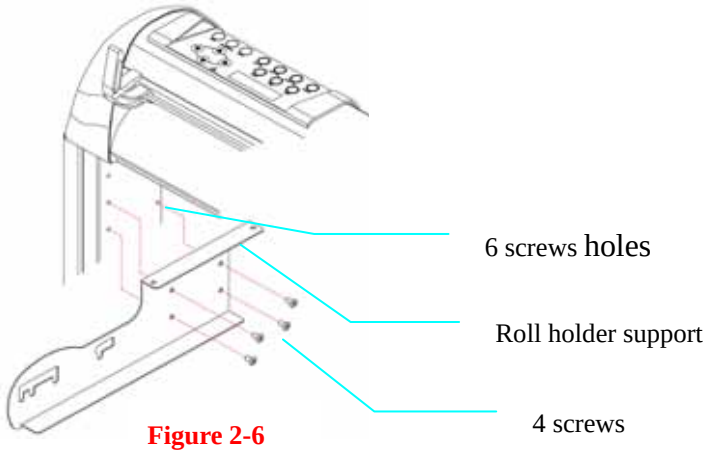


Figure 2-6

Step 6

Insert the roll holder support with the screws into the holes of the stand, then tighten them up as shown in Figure 2-6. You could decide roll holder support's position by inserting into different holes.

Step 7

Place two roll holders into the holes in the roll holder support (Figure 2-7)

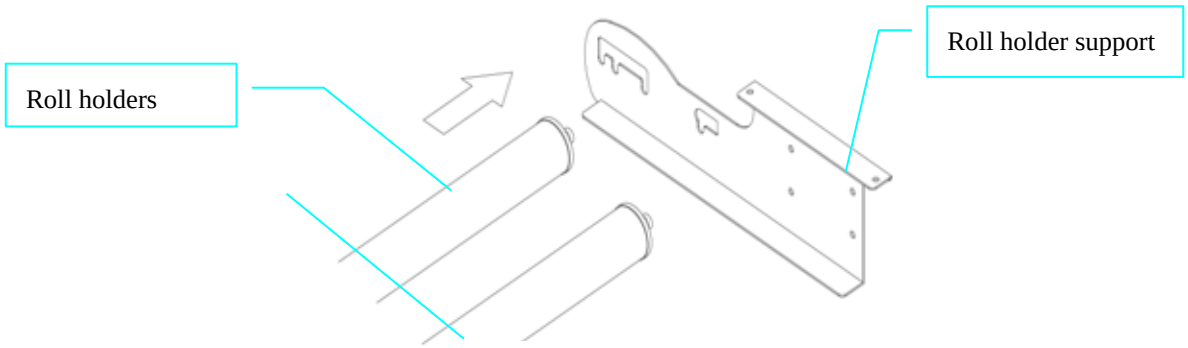


Figure 2.7

Step 8

Lastly, the complete picture will be shown like below. (Figure 2-8)

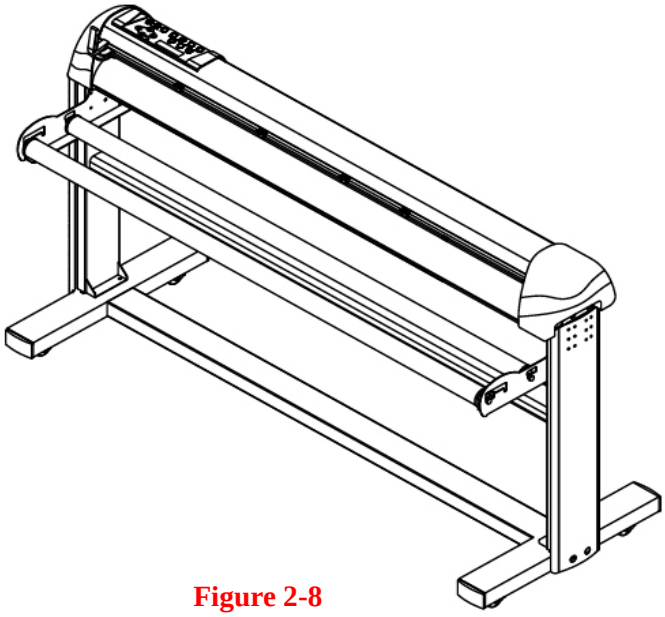


Figure 2-8

2.3 Desktop Flexible Media Support System (for JA-61 only)

Step 1

Please examine the following items in stand carton's accessory box:

- 1 set of Roll Media Flange (2 pieces)
- 1 set of Roll Holder (2 pieces)
- 1 set of Roll Holder Guide Bushes (4 pieces)
- 1 set of Roll Holder Support (2 pieces)
- 1 set of Desktop Support Bracket (2 pieces)
- 4 pieces of Plastic Foot
- 4 pieces of M4 screws
- 12 pieces of M6 screws
- 1 piece of M4 L-shape hexagon screw driver
- 1 piece of M5 L-shape hexagon screw driver
- 1 piece of M6 L-shape hexagon screw driver (for adjusting the screws of Roll Holders)

Step 2

Put the 4 Plastic Foot under the Roll Holder Support and insert the M4 screw into the hole of Plastic Foot and tighten them with the M4 L-shape screw driver. (Figure 2-9)

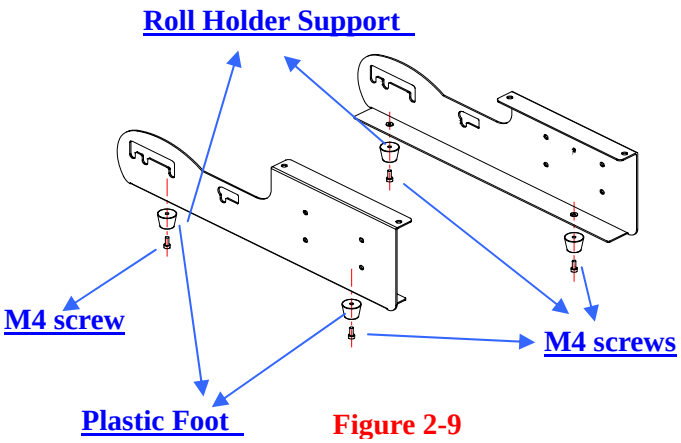
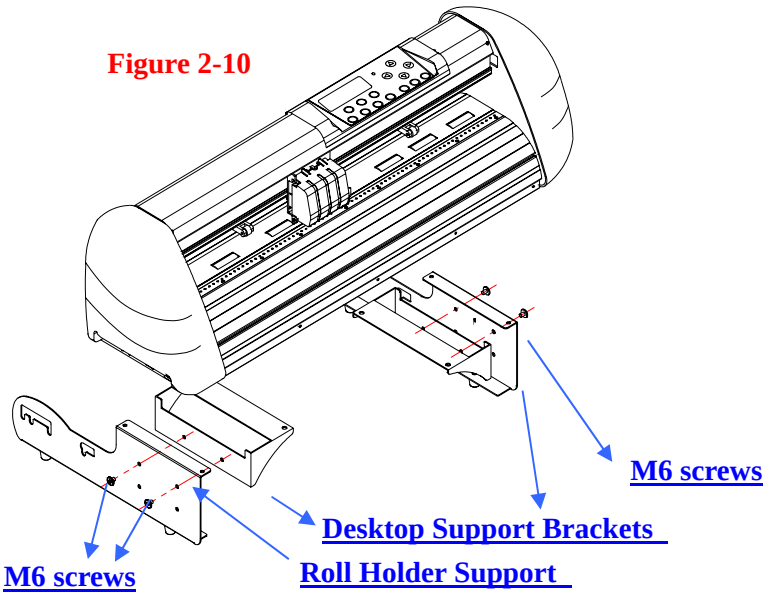


Figure 2-9

Figure 2-10



Step 3 Position the Desktop Support Brackets beside the Roll Holder Support and insert M6 screws into the Roll Holder Support and tighten them with M5 L-shape screw driver. (Refer to Figure 2-10 at the left).

Step 4

Put the bottom of machine in lateral, and position the Roll Holder Assembly beside the bottom of the machine. Then, insert the M6 screws into the holes of Roll Holder support assembly and tighten them with M5 L-shape screwdriver. Like Figure 2-11.

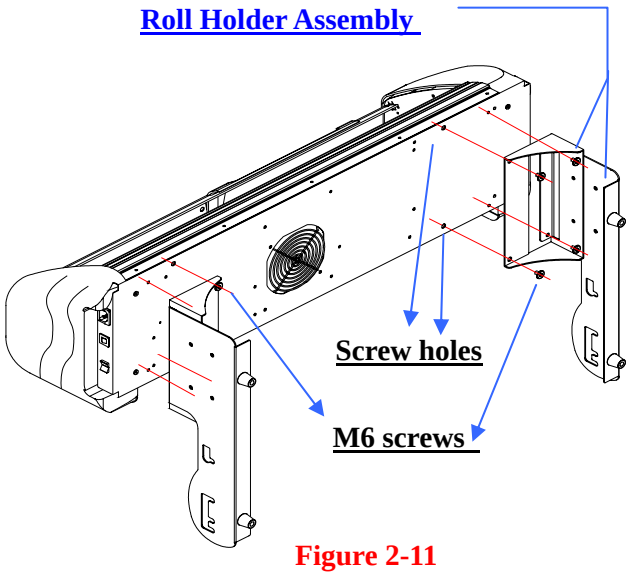


Figure 2-11

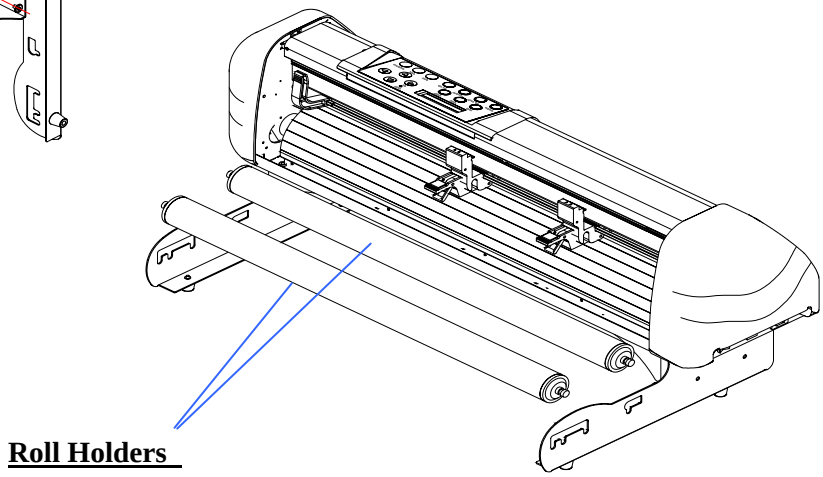


Figure 2-12

Step 5

Place the 2 roll holders into the holes of Roll Holder Support (Figure 2-12).

Step 6

The complete Desktop Media Support System will be shown as in Figure 2-13.

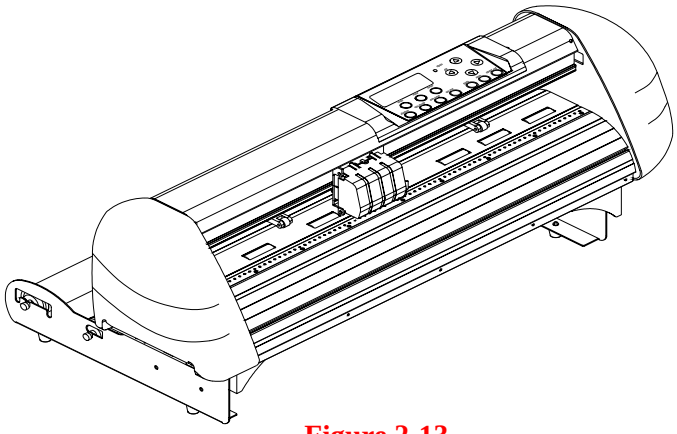


Figure 2-13

2.4 Blade Installation

Figure 2-14 is the illustrator of the blade holder. Insert a blade into the bottom of the blade holder and remove the blade by pushing the pin. Make sure that your fingers are away from the blade tip.

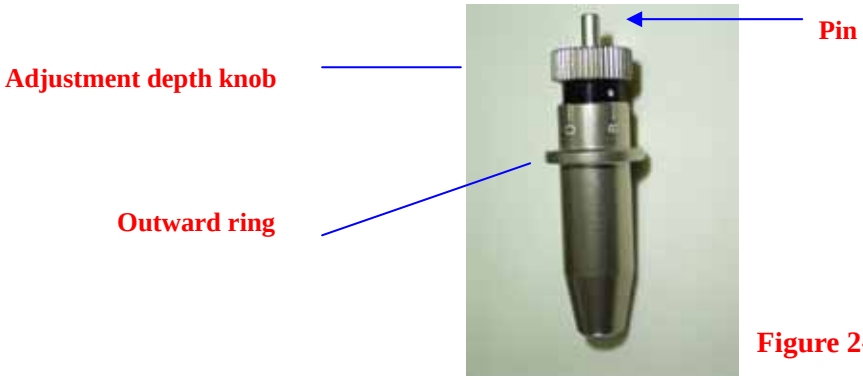


Figure 2-14

Step 1

Install blade (Figure 2-15).

Figure 2-15

Figure 2-16

Step 2

Push the blade to the bottom of the blade holder. (Figure 2-16).

Step 3

Adjust the blade tip to suitable length by screwing "Blade tip adjustment screw" clockwise or count-clockwise. (Figure 2-17).

Figure 2-17

Tips:

"The proper length" means the blade's length is adjusted 0.1mm more than film's thickness. That is, if the thickness of film is 0.5mm, then blade's length is properly adjusted 0.6mm and it can completely cut through the film layer yet avoid penetrating the backing.

Step 4

Insert the blade holder into tool carriage. Please note the outward ring of the holder must put into the grooves of carriage firmly (see Figure 2-18), then fasten the case (Figure 2-19).

Figure 2-18

Figure 2-19

In order to get the blade holder, you need to take off the lower cover of AAS module first (Figure 2-20); then use your thumb and index-finger tip to grab the blade holder (Figure 2-21).

Figure 2-20

Figure 2-21

Step 5 Use the reversing steps to remove the blade holder.

Step 6 **Eject the blade. Push "Blade eject pin" to eject blade** when the blade needs to be replaced.

Caution

The blade will lose its sharpness after a period of usage, the cutting quality might be affected. By increasing the cutting force, it might do the trick. However, once the blade is worn out and no longer provides a reliable cutting, you should replace a new one. The blade is consumable and must be replaced as often as necessary to maintain the cutting quality. The quality of the blade deeply affects cutting quality. So be sure to use a high quality blade to ensure good cutting results.

2.5 Cable Connection

The cutting plotter communicates with a computer through a **USB (Universal Serial Bus), Parallel port (Centronics) or** a **Serial port (RS-232C)**. This chapter shows you how to connect the cutting plotter to a host computer and how to set up the computer/cutting plotter interconnection.

!! **Notice:** When USB connection is enabled, both parallel port and serial port will be disabled automatically.

Figure 2-22

2.5.1 USB Interface

Jaguar III build-in USB interface are based on the Universal Serial Bus Specifications Revision 1.1. (Operation system of Windows 95, Windows NT don't support USB).

- USB driver installation

  Caution!! Don't plug USB cable into Jaguar II before you install USB driver.

  a. Put USB cable aside (don't plug it into Jaguar II).
  b. Insert "Installation CD", and then click on "USB driver" to install USB driver. When it Shows "USB Driver installed"..

- Connection

  Plug the USB cable into the Jaguar II USB interface connector. Plug the other end of the cable into the PC's USB interface connector.

- Cutting driver or sign cutting software installation

  Insert "Installation CD", and then click on "Driver" to install driver working with CorelDraw.

2.5.2 Parallel Interface

- Connecting to the Parallel (Centronics) Port

1. Connect a parallel cable to the cutting plotter and the host computer (Figure 4-1)
2. Set up the output port **LPT1** or **LPT2** from your software package
3. Send the data to your cutting plotter directly. Or, use DOS commands like **TYPE** or **PRINT** to output data.

2.5.3 RS-232 Interface

- Connecting to the RS-232 (Serial) Port

1. For IBM PC, PS/2 users or compatibles, connect the RS-232C cable to the serial connector of the assigned serial port (COM1 or COM2) of your host computer.
2. Set up the communication parameters (Baud Rate and Data Bits/Parity) to match the setting of software package, refer to chapter 3 – "Misc" key description.

2.5.4 Data Transmitting

There are two options to transmit the data from the computer to the cutting plotter:

Option 1: With proper interface settings, the data can be transmitted from your application software package to the cutting plotters directly.

Option 2: Most cutting software packages are able to emulate **HP-GL** or **HP-GL/2** commands, therefore, Use DOS commands like **TYPE** or **PRINT** to output your file. As long as the file is **HP-GL** or **HP-GL/2** format, the cutting plotter can output the data precisely.

For example, a file with **PLT** extension generated by **SignPal** can be transmitted directly to the plotter at the DOS prompt, and then be cut out. Before outputting at the DOS prompt, set up a transmission protocol between your cutting plotter and computer by a DOS command, MODE. Make sure that your PC has the same communication protocol as the cutter. For example:

MODE COM2: 9600, N, 8, 1, P

Then, use **TYPE** command to output via **COM2** if **COM2** is the assigned output port.

TYPE ***filename*** **> COM2**

Tip:
Add the **MODE** command line to your system's **AUTOEXEC.BAT** to automatically execute **MODE** command every time you want to output your data at the DOS prompt via serial connection. However, values in a **MODE** command should comply with the related requirements of your software. Refer to DOS manual for further information.

2.5.5 Connecting with Macintosh Computers

In order to operate the cutting plotter with a Macintosh computer (e.g. Power Mac), you need a MAC modem cable (DIN 8 to DB25) to connect the RS-232C cable, please refer to *Fig 4-2*.

The cable is an optional item, which could be ordered through your dealer.

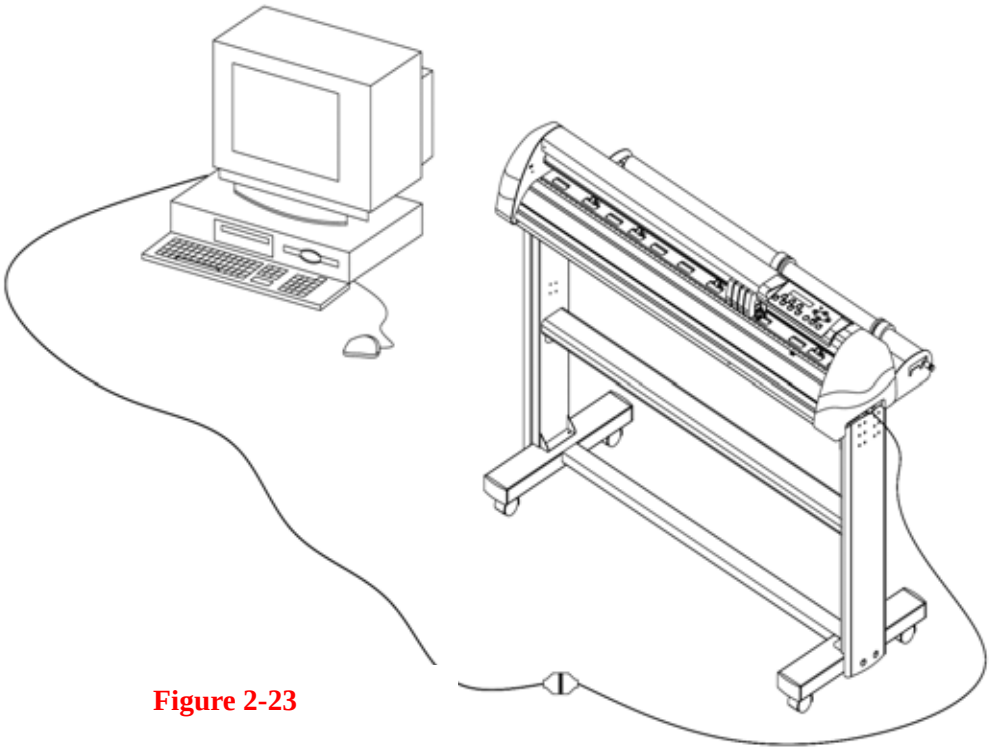
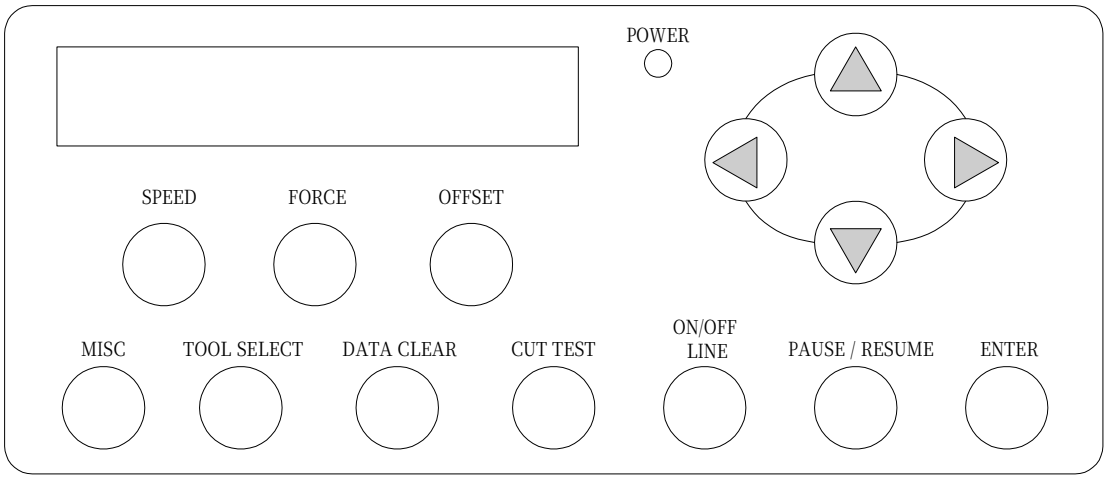


Figure 2-23

3. The Control Panel

This chapter describes the button operations with the LCM menu flowcharts of Jaguar III. When the cutting plotter is ready for use as described in Chapter 1 & 2, all functions are under default parameters.

3.1 The LCD Panel

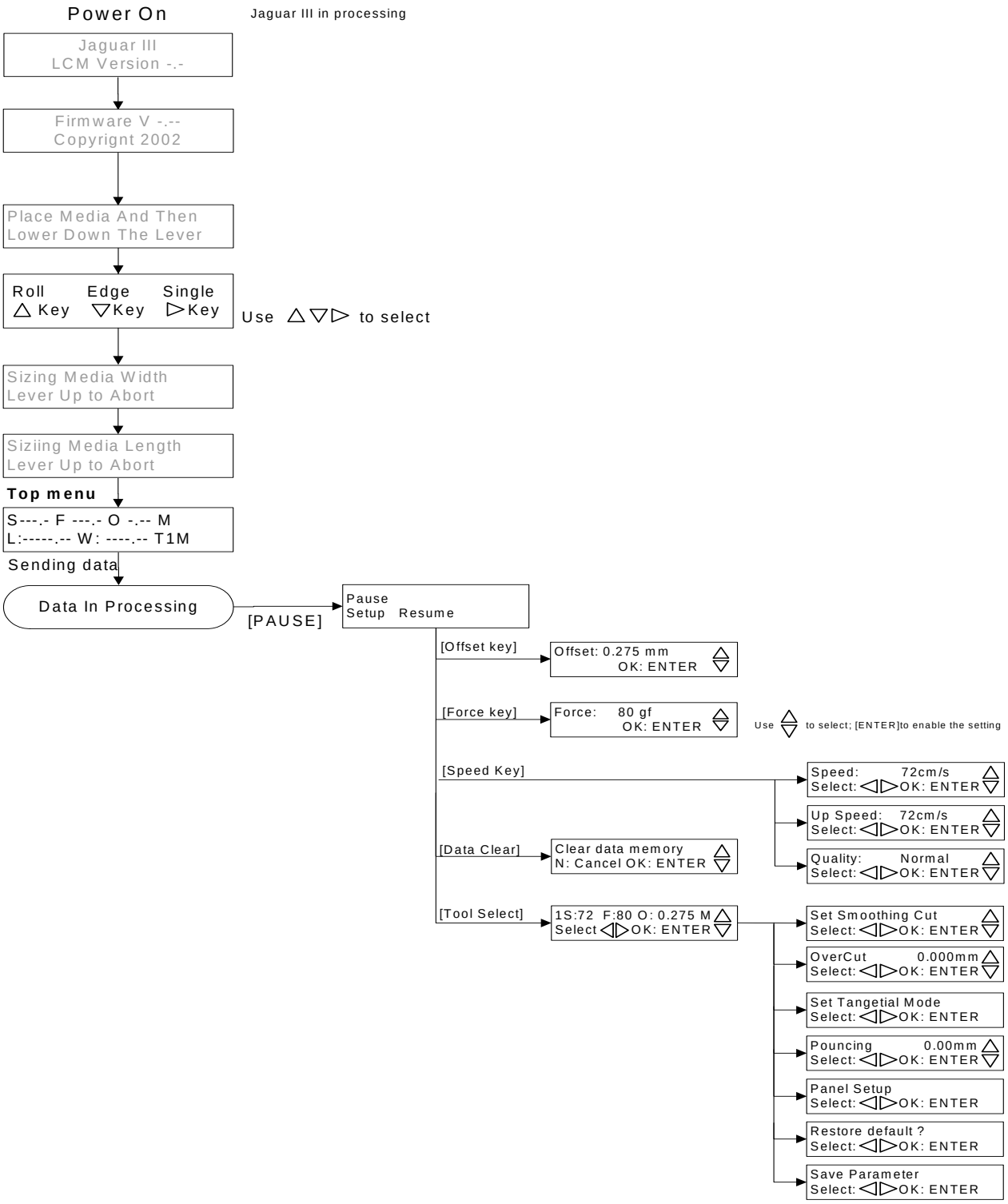


< LCD Control Panel on Jaguar III series >

Key	Function
LCD Screen	To display functions and error messages.
Power LED	To indicate the power status (light up: power on; light off: power off)
4 Arrow Keys	To move position, select function, or change setting.
ENTER	To set item, registers the immediately preceding input value.
PAUSE/RESUME	To temporarily halt cutting process or to continue
ON/OFF LINE	To switch modes, stop cutting job, or abort changes of settings.
OFFSET	To adjust the value of blade's offset.
FORCE	To adjust the value of cutting force.
SPEED	To adjust the value of cutting speed and quality.
CUT TEST	To perform cutting tests in different ways.
DATA CLEAR	To clear up buffer memory.
TOOL SELECT	To select tools.
MISC	To set up functions.

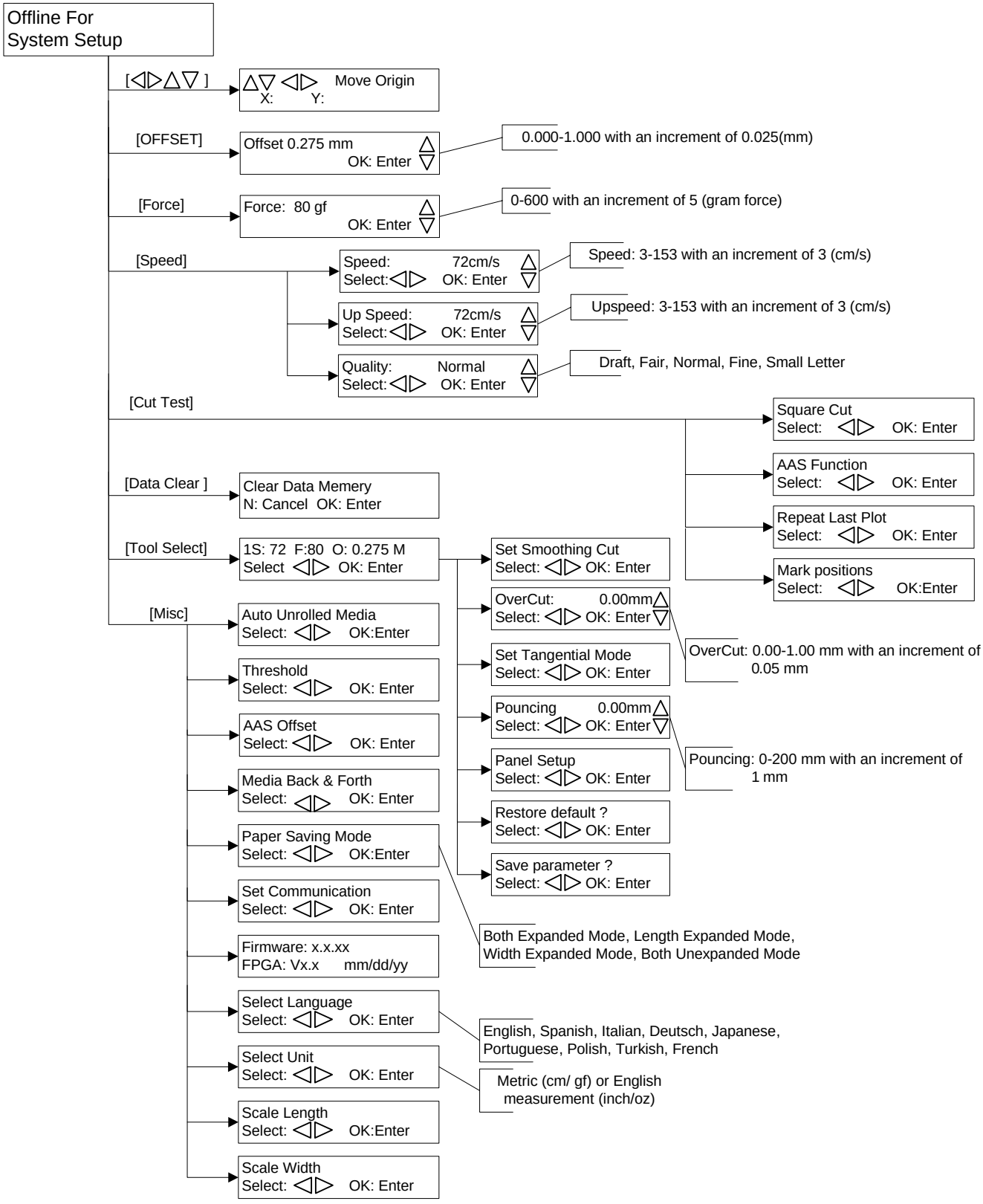
Please see details in 3.5 Menu Items

3.2 Menu in On-line Mode

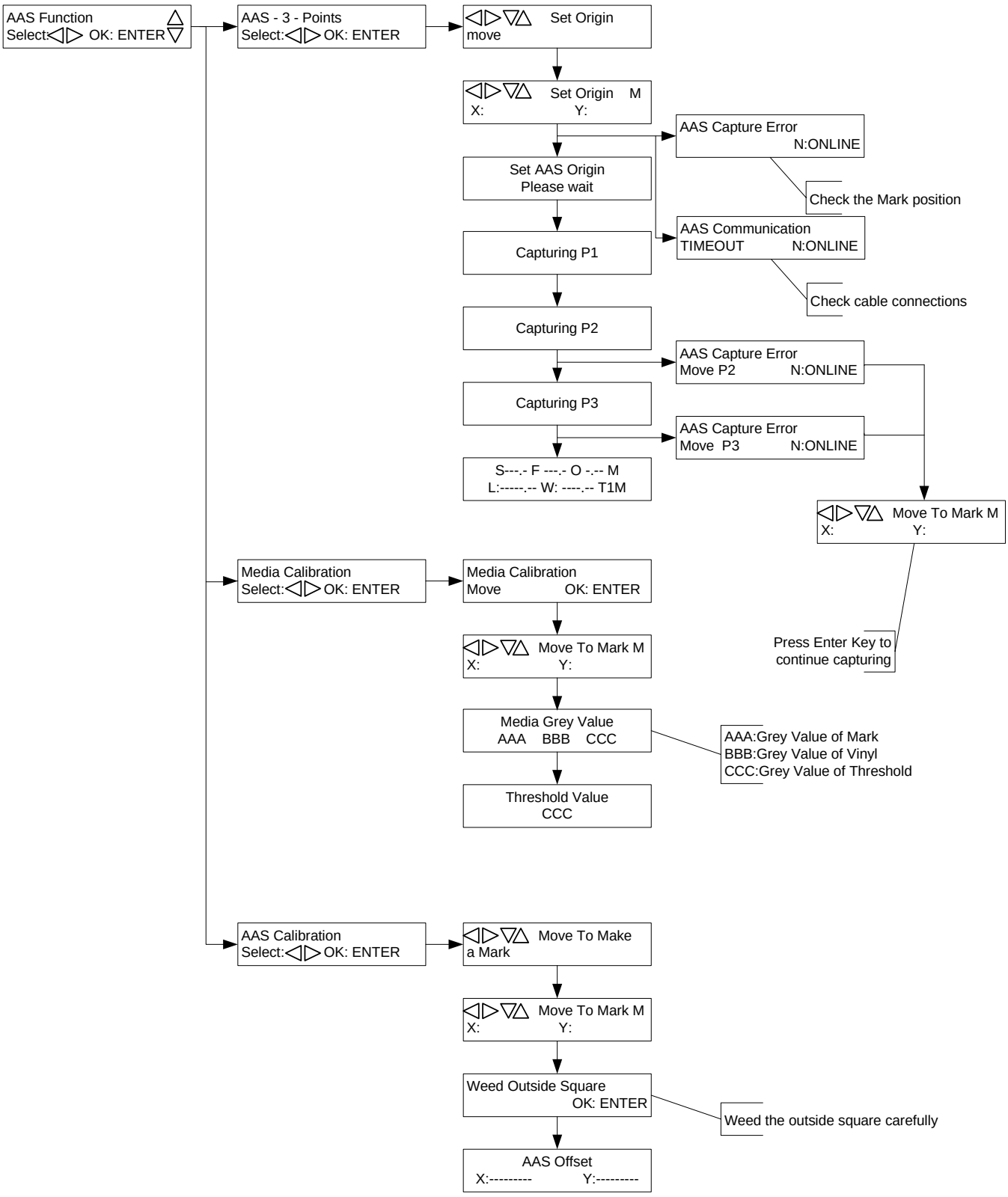


3.3 Menu in Off-line Mode

Press[ON/OFF LINE] switch to offline mode



3.4 Menu of AAS Function



3.5 Menu Items

Below describes the functions of menu items:

Menu or Key	Function	Setting	Default
--- Media sizing ---			
Roll	to measure media width.	Maximum Tracking 25 meters	
Edge	to measure media width and pull the media back till the front paper sensor open.	Maximum Tracking 25 meters	
Single	to measure media width and length.	Maximum Tracking 10 meters	
--- POWER ---			
	to indicate the power status.		
[Arrow Keys]			
	1. to move the tool carriage position on X or Y axis. 2. to select functions or change values of settings.		
[ENTER]			
	1. to effect the displayed parameters that will be saved automatically. 2. to set a new origin at the present tool carriage position. In “offline” mode, moving the tool carriage to desired position by [Arrow Keys], then press [ENTER] key to set a new origin. While moving with the parameters of XY-axes displayed, press [MISC] key will enable fine-tune movement; press [MISC] key again to disable the function.		
[PAUSE/RESUME]			
	to temporarily halt the cutting process; to resume the process by press [Pause/Resume] key again.		
[ONLINE/OFFLINE]			
	1. to switch between online mode and offline mode. 2. to stop the cutting job or abort the change of setting. Once press this key, the cutting job will be terminated immediately and cannot be resumed.		
[OFFSET]			
	to set or modify the distance between the blade tip and the center axis.	0.000~1.000mm	0.275mm
[FORCE]			
	to set or modify the value of tool force.	0~600gram; 5 gram/per step	80 gram
[SPEED]			
Speed	to set or modify tool speed at horizontal moving.	0~153cm/sec; 3cm/sec per step	72cm/sec
Up Speed	to set or modify tool speed at vertical moving.	0~153cm/sec; 3cm/sec per step	72cm/sec
Cutting Quality	to set or modify cutting quality. While cutting small letter, set as “Small letter”; while cutting in high speed, set as “Draft”; for normal operation, set as “Normal”.	Draft, Fair, Normal, Fine, Small Letter	Normal

[CUT TEST]			
Square Cut	to perform a cutting test at present blade position. for more information, please refer to page 2-7 to adjust blade force and cutting speed.		
AAS Function	AAS-3-Points: to perform AAS (Accu-Aligning System) contour cutting.		
	Media Calibration: to calibrate the sensitivity of the AAS sensor.		
	AAS Calibration: to calibrate the AAS (Accu-Aligning System).		
Repeat Last Plot	Recut: to repeat the last job without re-sending the data.	1~99; 1 per step	
	Copy: to copy the last job without re-sending the data. * 1mm gap will be auto-generated between 2 copies). * if the media length is not enough to continue, it will show below message on LCM:. Out Of Space; # of Copies finished * if both functions are enabled at the same time, the cutter will perform the last setting only.	1~99; 1 per step	
Mark Positions	2-points: to manually position 2 points for contour cutting.		
	3-points: to manually position 3 points for contour cutting.		
[DATA CLEAR]			
	to clear up buffer memory.		
[TOOL SELECT]			
Set Smoothing Cut	to enable smooth-cutting function.		Ensable
Over Cut	to generate an overcut to facilitate weeding.	0.00mm-1.00mm 0.05mm/per step	0.00mm
Set Tangential Mode	to enable the emulated tangential-cutting mode for thicker media types and small letter cuts. Note: while the Offset value setting at 0.000 mm, “Set Tangential Mode” will automatically be disabled.		Ensable
Pouncing	to make perforated patterns.. * In order to use this function, Pouncing tool must be installed. * Before start pouncing, place pouncing strip on top of the cutting pad to protect the cutting pad. * Set the value as 0 mm to disable the pouncing mode. * Pouncing tool is an optional item.	0~200mm	0mm
Panel Setup	Accept setup command: to accept commands of the Force, Speed, Cutting Quality, and Offset only via software.		

	Control panel only: to accept commands of the Force, Speed, Cutting Quality, and Offset only via control panel of the cutter.		
Restore default	to turn all parameters of the menu items to factory-default settings.		
Save Parameter	to save pattern(s) of cutting parameters for later use.	Patterns1~4	Pattern 1
[MISC]			
Auto Unrolled Media	To avoid paper jam and motor crash by automatically unroll media (50cm and up) before cutting while enabled. . * Auto-unroll only effects on roll/edge media. * Using Single mode to size media will disable this function automatically. * If the length of the rolled media is less than 2 meters or the weight is light, it is recommended to set this mode disabled.		Enable
Threshold	to set or modify threshold value.		
AAS Offset	to set or modify AAS offset value.		
Media Back & Forth	to enable to save time on repeated cutting jobs and better tracking. After cutting job has finished, the media will move back to the origin, then move to the end of the plot.		Disable
Paper Saving Mode	to save media by four different modes: 1. Length expanded mode 2. Width expanded mode 3. Both expanded mode 4. Both unexpanded mode		Both unexpanded mode
Set Communication	to build up the communication between host computer and cutter. *Baud Rate* is to determine the speed of data transmission. *Data Bits* refers to the size of one block of data. *Parity* is used to check if data was revived correctly or not. 9600, n, 7, 1, p9600pbs, 7 Bits with NO Parity 9600, o, 7, 1, p9600pbs, 7 Bits with ODD Parity 9600, e, 7, 1, p9600pbs, 7 Bits with EVEN Parity 9600, n, 8, 1, p9600pbs, 8 Bits with NO Parity 9600, o, 8, 1, p9600pbs, 8 Bits with ODD Parity 9600, e, 8, 1, p9600pbs, 8 Bits with EVEN Parity 19200, n, 7, 1, p 19200pbs, 7 Bits with NO Parity 19200, o, 7, 1, p 19200pbs, 7 Bits with ODD Parity 19200, e, 7, 1, p 19200pbs, 7 Bits with EVEN Parity 19200, n, 8, 1, p 19200pbs, 8 Bits with NO Parity 19200, o, 8, 1, p 19200pbs, 8 Bits with ODD Parity 19200, e, 8, 1, p 19200pbs, 8 Bits with EVEN Parity		
Firmware Version	to display the version number of Firmware and FPGA code.		
Select Language	to select displayed languages on LCM panel in English, Spanish, Italian, Deutsch, Japanese, Portuguese, Polish, Turkish or French.		English
Select Units	Provides two unit systems for users convenient.	cm/gram; inch/oz	Metric

Scale Length Scale Width	to adjust the scale of media length and width that may cause by the thickness of the media. The Denominator is the actual length, and the Numerator is the ideal length measured from the resultant. For example, cutting a line with 500.0 mm length. The procedure as follows: 1. Press the [LEFT ARROW] to choose the Numerator and select 500.0 mm, 2. Cut the length by sending a graph file, 3. Measure the length then use the [RIGHT ARROW] key to choose the Denominator, then 4. Press [UP ARROW /DOWN ARROW] to change the values of the actual length.		

4. Operation

4.1 Media Loading

4.1.1 Loading the Sheet Media

To load the media properly, please follow the procedures listed below:

Step 1

Use the lever on the upper right side of the cutting plotter to raise or lower down pinch rollers. Pull the lever forward until it makes a clicking sound then the pinch rollers are raised (**Figure 4-1**).

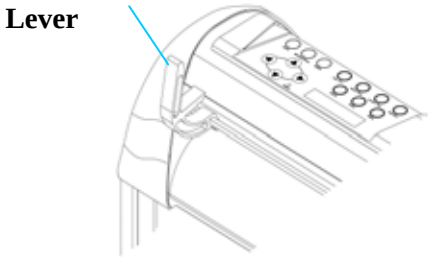


Figure 4-1

Step 2

Load your media on the platen and slide it under the pinch rollers from either the front side or the backside. The **color alignment rulers** on the platen extension will help you to adjust the media precisely.

> **Note:** Be sure that the media must cover the paper sensors on the platen when loading the media. At least one of the two paper sensors (**Figure 4-2**) should be covered. Once the media covers the sensor, the cutting plotter will size the media's width and length automatically.

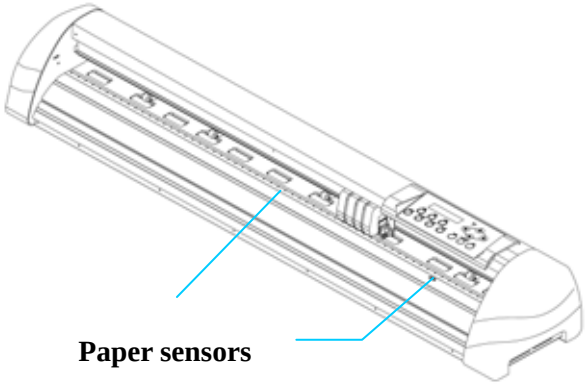


Figure 4-2

Step 3

Then move the pinch rollers manually to the proper position. Be sure the pinch rollers must be positioned above the grid drum. The **white marks** on the main beam will remind you where the grid drums are (Figure 4-3).

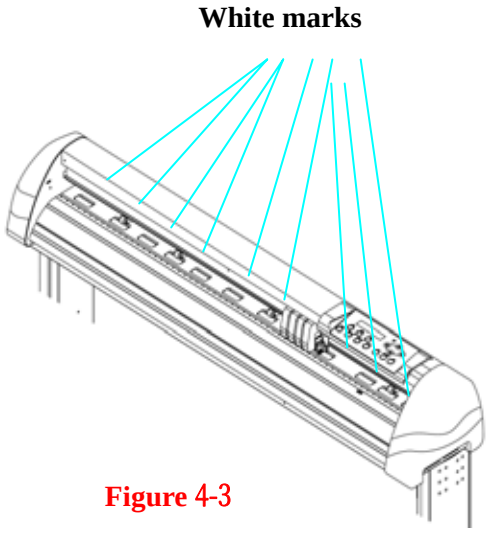


Figure 4-3

Step 4

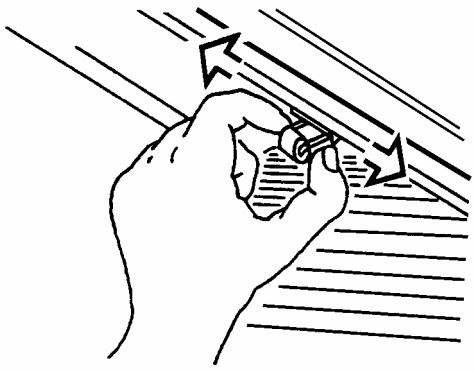
Push the lever backward to lower down the pinch rollers.

Step 5

Turn on the power, the tool carriage will measure the size of the media automatically. And the plotting cutter begins to work.

Note:

1. Always adjust the position with the pinch roller raised.
2. Move the pinch roller by applying force at the rear portion of the pinch roller support.
3. Do not move it by holding its front rubber roller (Figure 4-4).



(X)

Incorrect

Figure 4-4

4.1.2 Loading the Roll Media

Step 1

Put the roll media guide bushes on two roll holders (Figure 4-5).

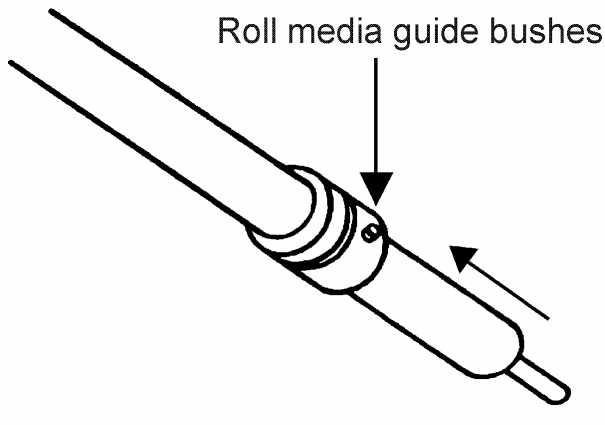


Figure 4-5

Step 2

-- Option A (Recommended)

Insert the two roll holders into the roll media support set then place the roll media directly between the two roll holders (**Figure 2-22**).

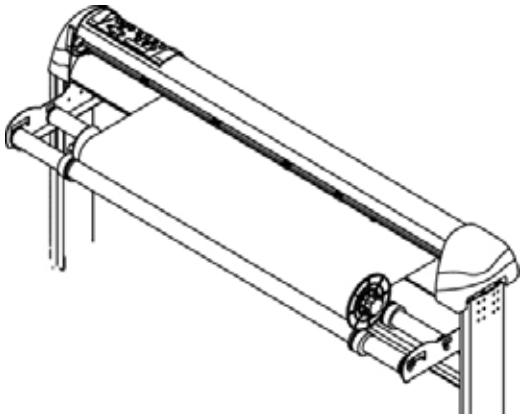


Figure 4-6

-- Option B (Use the media flanges)

Insert a roll media flange at the end of each roll media and tighten the thumbscrew until the roll media is firmly gripped (see Figure 4-7).

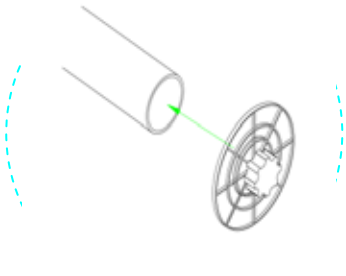


Figure 4-7

Then put the roll media on the roll holders. Adjust the position of the roll media ensure that media flanges are able to run in the grooves of media guide bushes. (Figure 4-8)

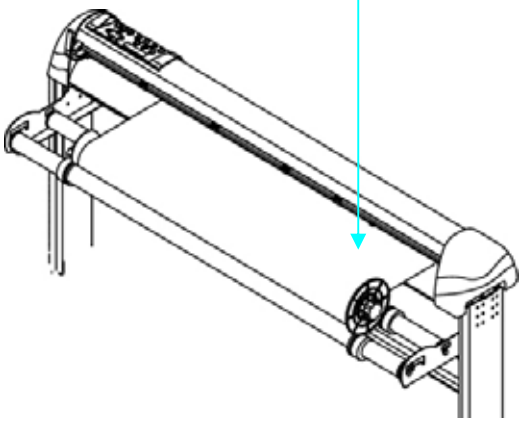


Figure 4-8

Step 3

Load the media on the platen. Please refer to “2.4.1. Loading the sheet media”. After loading the roll media, flatten the media on the platen and hold the front edge of the roll media firmly (Figure 4-9).

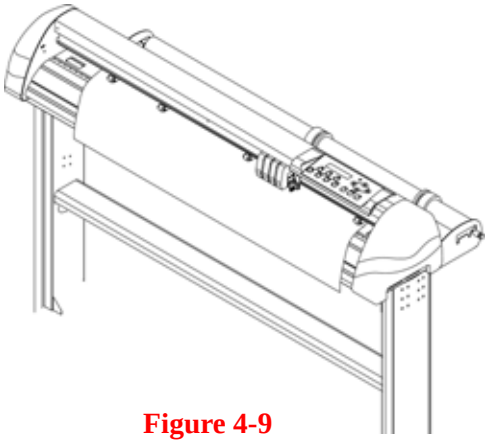


Figure 4-9

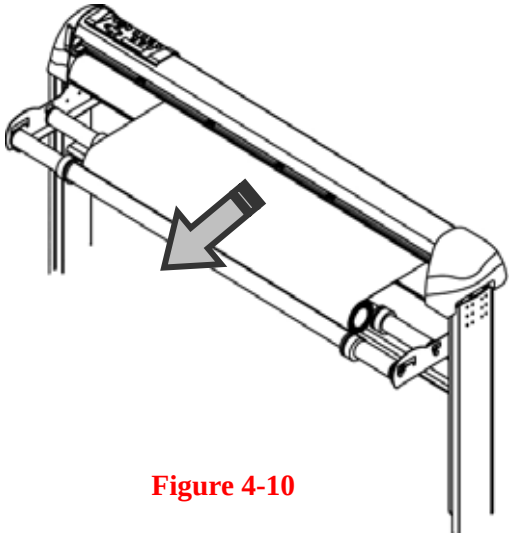


Figure 4-10

Step 4

Turn the roll downward to make an equal tension across the media (Figure 4-10)

Step 5

Move the pinch rollers to the appraise location and note that the pinch rollers must be positioned above the grid drums.

Note :

Make sure that the media tension is equally distributed from left to right. If the media were not tighten enough against the platen, it would cause tracking problems!

Step 6

Push the lever backward to lower down the pinch rollers.

Step 7

Fix roll media guide bushes on the roll holder to secure the roll media.

Step 8

Turn on the power switch, the tool carriage will sizing the media automatically. Then the cutting plotter is ready to work.

Step 9

Use the reverse steps to remove the media.

4.2 Tracking Performance

In order to achieve the best tracking performance for a long plot, we recommend some significant media loading procedures described as follows:

If the media length is less than 4 m, leave the margin of 0.5mm—25mm in the left and right edges of the media (Figure 4-11).

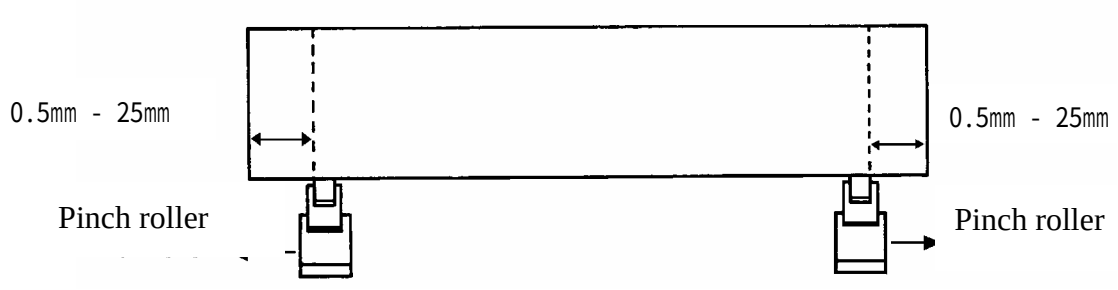


Figure 4-11

If the media length is greater than 4m, leave at least 25mm margin on the left and right edges of the media (Figure 4-12).

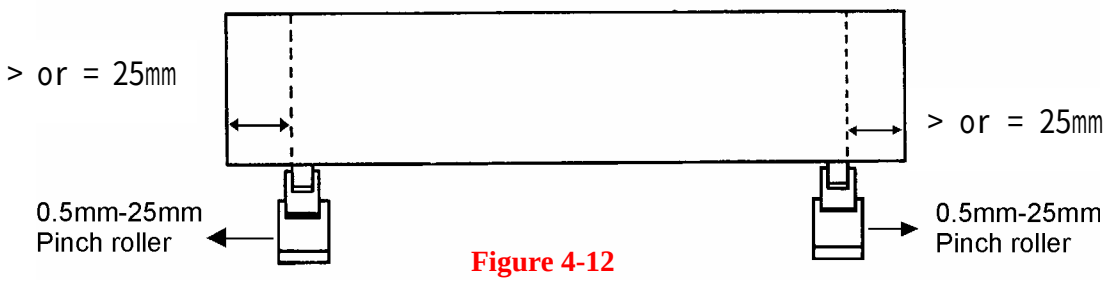


Figure 4-12

Please refer to the paragraph **"Important Information"** at the beginning of the book.

4.3 Adjusting the Cutting Force and Offset

Before sending your designs for cutting, you may perform a “cut test” to generate satisfactory cutting results.

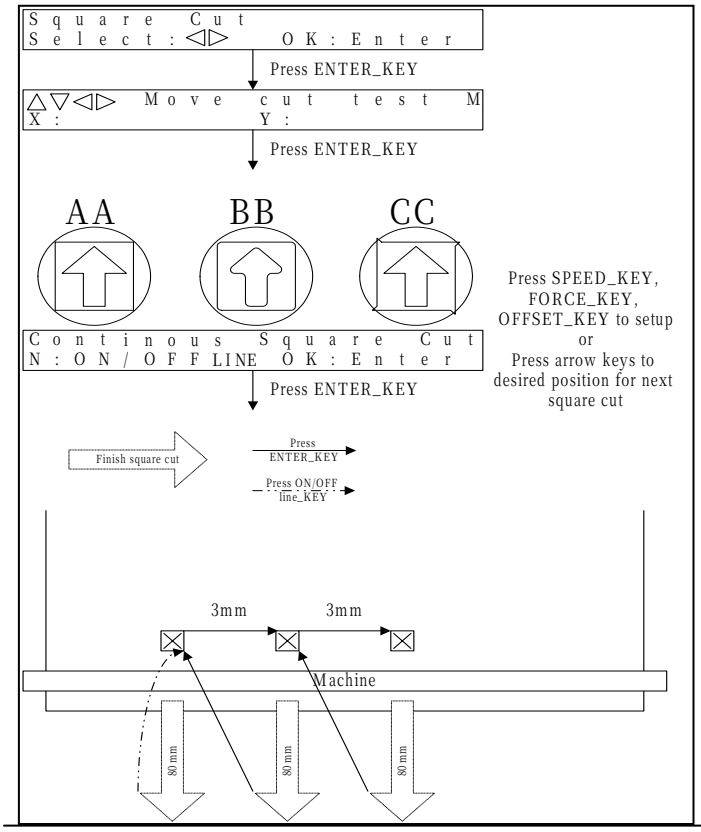
“Cut Test” should be repeated until the appropriate cutting conditions for the media are discovered.

After sizing the media, press [CUT TEST] button to select the “square cut”, and press [ENTER KEY] to confirm.

The default cutting force and offset value of the cutting test are 80gf and 0.275mm respectively. Press [ARROW KEY] to move the tool carriage to the position where you like. Then, press the [ENTER KEY] to perform Cut Test.

Note: At the same time, the new origin is also set at the cutting test position.

When the cutting test is completed, a pattern appears. Peel off the pattern to see if it can be easily separated from the media base. If yes, the setup tool force is appropriate. If not or cut through the back paper, press [FORCE KEY] to adjust the tool force until an optimum force is obtained (Figure 4-12).



If the pattern appears to be BB or CC layout, press [OFFSET KEY] to adjust the offset value until AA pattern discovered.

Figure 4-13

4.4 How to Cut 3mm Letters?

To obtain good quality output, narrow media is recommended. However, if wide media is used, you should:

1. Position two pinch rollers as close as possible to both edges of the cutting area.
2. Make sure the loaded media is held flat with equal tension across the platen.
3. Suggested operation settings:

   Tool force: 55 gf. (or depending on the material)
   Cutting speed: 45-50 cm/sec
   Tool up speed: 45-60 cm/sec
   Smooth cut: DisableCutting
   Quality: Small Letter

4.5 How to Make A Long Plot?

When you are making a long plot with a roll of heavy and wide vinyl paper you need to use “AUTO UNROLL MEDIA “ function.

1. If the length of graphic is between 3m and 5m, the cutting speed is better slower than 45cm/sec and the cutting quality is set as Normal.
2. If the length is longer than 5 m, the cutting speed is better slower than 30 cm/sec.
3. After loading the roll media all pinch rollers are raised at this stage, flatten the media on the platen and hold the front edge of the roll media firmly (Figure 4-14).

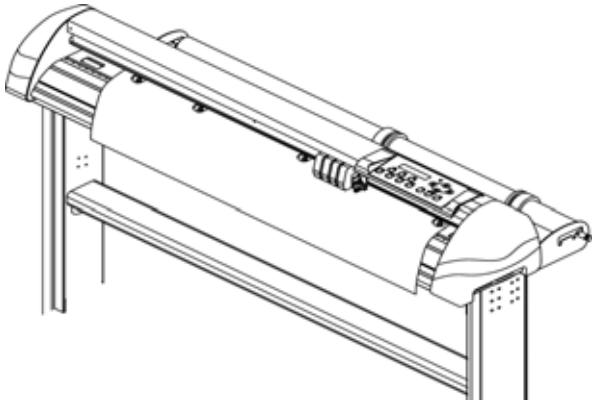


Figure 4-14

Then turn the roll downward to make an equal tension across the media (See Figure 4-15)

Make sure that the media tension is equally distributed from left to right. If the media is not tight enough against the platen, it will cause tracking problems.

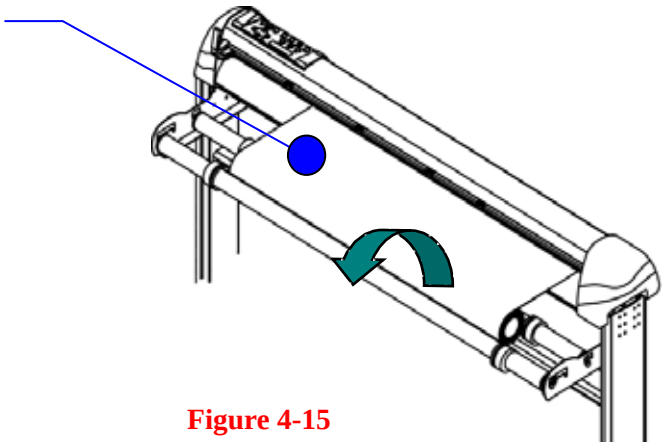


Figure 4-15

4. Engage pinch rollers.
5. Fixes roll media guide bushes on the roll holder to secure the roll media.
6. The protrusion length of the blade should be longer than the thickness of the vinyl. (Please see in the section of “ABOUT THE TOOL”.) After you notice all above then you’ll enjoy your gigantic signs production!

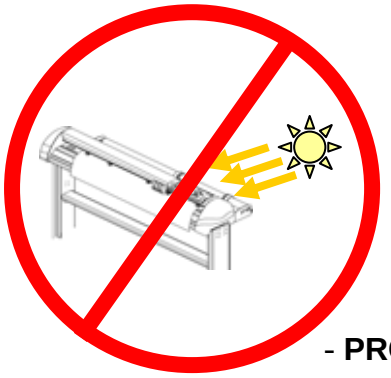
5. Accu-Aligning System

5.1 Introduction

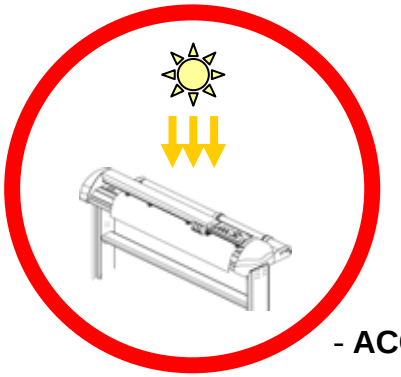
The Jaguar III series cutters feature an Accu- Aligning System (AAS) to guarantee precise contour cutting quality by registering black marks printed around the graphic.

NOTE

- Avoid any kind of light source horizontally illuminating the AAS module.



- PROHIBITED



- ACCEPTABLE

- DO NOT take off the cover of AAS module in operation.

- PROHIBITED

5.2 Calibrating the System

The AAS system has two calibration procedures to ensure maximum accuracy of AAS operation.

5.2.1 Media Calibration

Media Calibration is to ensure the sensor being able to recognize the registration marks. The factory default works on a wide range of materials. However, certain types of materials may not work properly. Performing a media calibration may become necessary while working with such materials to change the sensitivity of AAS for greater reliability.

- **When to use**

  It's **NOT NECESSARY** to perform Media Calibration every time you use a different colored or different kind of media, **unless the registration marks on the printed media become undetectable in AAS-3-Points process**. Refer to Chapter 6.4 for Media Calibration procedure when required.

5.2.2 AAS Calibration

AAS calibration measures the exact distance between the blade tip and the sensor of CCD camera.

- **When to use**

  AAS Calibration may need to be performed under below conditions:

  * after replacing the mainboard on cutter.
  * after replacing the carriage on cutter.
  * after replacing the AAS module on cutter.

- **Note**

  * **DO NOT** perform AAS Calibration yourself; consult your dealer for further information or assistance.
  * it's recommended to record the factory setting via below process.
    1. press "ON/OFF LINE" button on LCD control panel.
    2. press "MISC" button.
    3. choose "AAS offset".
    4. "ENTER" to get the XY values.
    5. write down the numbers and keep it as your record.
    6. in case you need to input the factory setting, follow the same procedure and use arrow keys to adjust XY values.

5.3 Printer Test

Before performing AAS contour cutting, it's recommended to print out a test file that you can find in the enclosed Installation CD to make sure the printing quality.

- Print out the file of "Printer Test_100x50cm.eps" in the "Printer Test Sample" folder of Jaguar III"s Installation CD from your printer.
- Measure the length and width of the grids by a ruler.
- The size of printed grids should be equal to the size indicated in the file.
- If the printed grids show symmetrical scaling problem in Figure A,

  A1=A2=~=A5≠the size indicated in the file;

  B1=B2=~=B10≠the size indicated in the file.

  AAS contour can be scaled a few percentage to fit the printed grids to solve the problem.
- If the printed grids show asymmetric scaling problem in Figure A,

  A1≠A2≠~≠A5; B1≠B2≠B3≠~≠B10.

  it may cause AAS Capture error due to the problem of printing distortion. In this case, consult your printer dealer for further assistance.

B1A1	A2	A3	A4	A5
B2				
B3				
B4				
B5				
B6				
B7				
B8				
B9				
B10				

<Figure A>

5.4 Contour Cutting

For accurate contour cutting with AAS function, proceed as follows:

Step 1 **Creating the Graphic**

■ Create the graphic that you want to print and cut in your software.

■ Create a contour for cutting around the graphic.

TIPS1: Leave some space between the graphic and the contour.

TIPS2: Create the contour in a separate layer and assign a different color for it.

■ Make copies of both the graphic and contour as your demand.

.

Step 2 **Placing the Marks**

Follow the below instructions and Figure 5-1 to ensure the accuracy of contour cutting.

■ Place a mark of exactly 3*3mm black square to represent the origin. Make sure that the origin mark is situated at the position indicated in Figure 5-1.

TIPS1: Set the line style of the mark to none.

TIPS2: Place all the marks on a separate layer for easier handling.

■ Place the 2nd mark indicating the X-Axis by copy the origin mark then move in horizontal direction with the same height.

■ Place the 3rd mark indicating the Y-Axis by copy the origin mark then move in vertical direction without horizontal shift.

AAS Printing Layout Guide

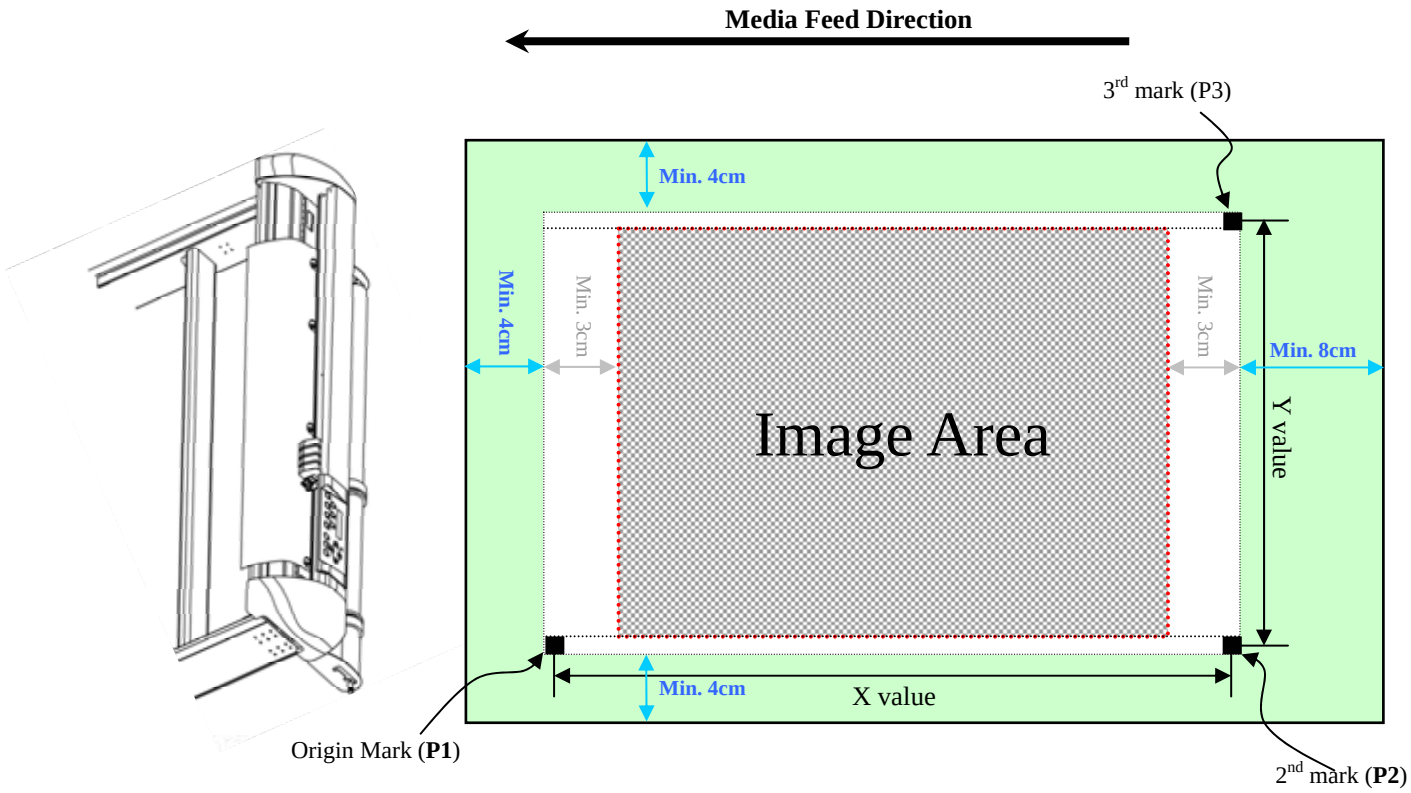


Figure 5-1

Mark Size： exact 3 * 3 mm
Mark color： black

X value：

- the distance between P1 center and P2 center.
- Minimum - ***7cm***
- Maximum - depends on printing quality and media loading accuracy.

Y value：

- the distance between P2 center and P3 center.
- Minimum - ***7cm***
- Maximum - ***Max Cutting Width – 5cm*** (Max Cutting Width differs on different models)

Image Area：

image(s) or pattern(s) with contour line(s) locating in this area can work AAS-3-Points function successfully.

■ The XY-value is the exact distance between two marks (from the center of one mark to the center of another mark).

.

TIPS1: Make sure that there is, at least, 3*3cm space margin around every mark.

TIPS2: Do not measure the distance on the printout but in the software for accurate XY values.

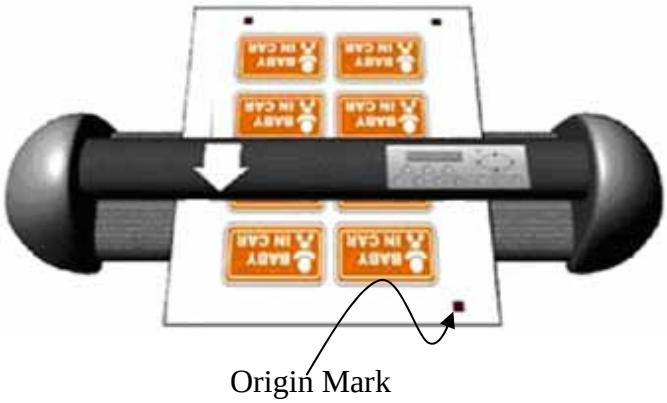
TIPS3: while the graphic reaches the max. cutting width, move the 3rd mark 5cm toward the 2nd mark to ensure AAS operation.

Step 3 Printing the Graphic

■ Print the graphic and the marks with your printer (Scaling = 100%).

■ When printing on a roll media, make sure the orientation as following:

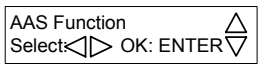
Step 4 Loading the printout in the cutter



Step 5 Registrating the Marks

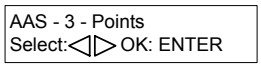
■ Before proceeding, make sure all the cutting parameters are correct (pressure, velocity,…).

■ Press the 【CUT TEST】menu key until the message “AAS Function” is displayed on the LCD.

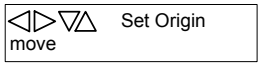


■ Press the ▲▼ arrow key until the message “AA-3-Points” is displayed on the LCD.

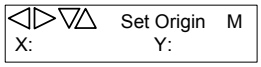
■ Press the【ENTER】menu key to confirm the selection.



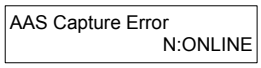
■ Use the ▲▼▲▼ arrow keys to place the origin mark right under the blade tip.



■ Press the【ENTER】menu key to conform the selected point of origin.



■ The cutter now will scan the marks and store the origin. In case something may have gone wrong the following message will be displayed:



Step 6 Cutting the Contour

■ Follow the specific instructions for contour cutting in your software. If there are no such instructions, take the following description as your reference.

■ Move the entire graphic (registration marks and contours included) in your software so that the origin mark is situated at the right place (see Figure 4-16)

■ Select the contours and cut them out. (Make sure that only the contours are selected for cutting.

6. Maintenance

This chapter explains the basic maintenance (i.e. cleaning the cutting plotter) required for the cutting plotter. Except for the procedures mentioned below, all other maintenance must be performed by a qualified service technician.

6.1 Cleaning the Cutting Plotter

Cleaning the machine properly and regularly will ensure optimal performance out of your machine.

Cleaning Precaution !

- Unplug the cutting plotter before cleaning it in order to prevent electrical shock.
- Never use solvents, abrasive cleaners or strong detergents for cleaning. They may damage the surface of the cutting plotter and the moving parts.

Recommended Methods:

- Gently wipe the cutting plotter surface with a lint-free cloth. If necessary, with a damp cloth immersed in water or alcohol. Dry and wipe any remaining residue off a soft, lint-free cloth.
- Wipe all dust and dirt from the tool carriage rails.
- Use a vacuum cleaner to empty any accumulated dirt and media residue beneath the pinch roller housing.
- Clean the platen, paper sensors and pinch rollers with a damp cloth immersed in water or alcohol, and dry with a soft, lint-free cloth.
- Wipe dust and dirt from the stand.

6.2 Cleaning the Grid Drum

1. Turn off the cutting plotter, and move the tool carriage away from the area needed to be cleaned.

2. Raise the pinch rollers and move them away from the grid drum for cleaning.

3. Use a bristle brush (a toothbrush is acceptable) to remove dust from the drum surface. Rotate the drum manually while cleaning. Refer to **Figure 6-1**

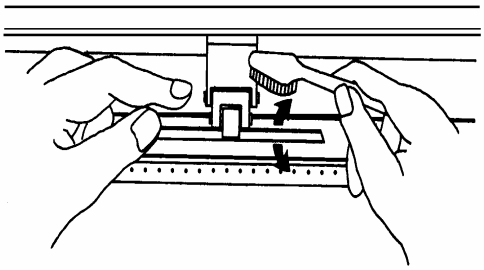


Figure 6-1

6.3 Cleaning the Pinch Rollers

1. If the pinch rollers require a thorough cleaning, use a lint-free cloth or cotton swab to wipe away the accumulated dust from the rubber portion of the pinch rollers. To prevent the pinch rollers from rotating while cleaning, use your finger to hold the pinch rollers to prevent them from rotation

2. To remove the deeply-embedded or persistent dust, use the lint-free cloth or cotton swab moistened with rubbing alcohol.

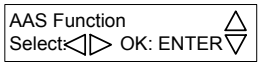
6.4 Media Calibration Procedure

To calibrate the media by following steps:

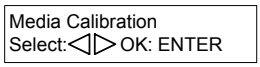
Step 1 **Print a black square of 3*3mm on the media that will be used with AAS.**

Step 2 Power up the cutter and load the piece of media.

Step 3 Press the 【CUT TEST】menu key until the message “AAS Function” is displayed on the LCD.



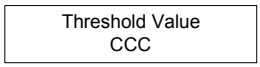
Step 4 Press the ▲▼ arrow key until the message “Media Calibration” is displayed on the LCD.



Step 5 Use the ▲▼▲▼ arrow keys to place the center of the black square under the blade tip.

Step 6 Press the【ENTER】menu key to sense the grey values. Normally 3 values will be displayed on the LCD: Grey value of mark, Grey value of Vinyl, and Grey value of Threshold.

Step 7 Press the【ENTER】menu key to set the Threshold Value.



The value is specifically for this kind of media. It is recommended to record the value for later use.

7. Trouble Shooting

This chapter helps you to correct some common problem you may come across. Prior to getting into the details of this chapter, please be sure that your application environment is compatible with the cutting plotter.

> **Note:**
> Before having your cutting plotter serviced, please make certain that the malfunction is in your cutting plotter, not the result of an interface problem or a malfunction in your computer or a software problem.

Why is the cutting plotter not functioning?

Possible Causes:

7.1 Non-Operational Problems

Check the following first:

- Does the AC power cord plug in properly?
- Does the AC power cord connected to the power connector properly?
- Does the power LED still illuminate?

Solutions:

If the LCM is able to display the message, the cutting plotter should be in a normal condition. Switch off the cutting plotter and turn it on again to see is the problem still existing.

If the LCM is not able to display any message, contact the technician from your dealer.

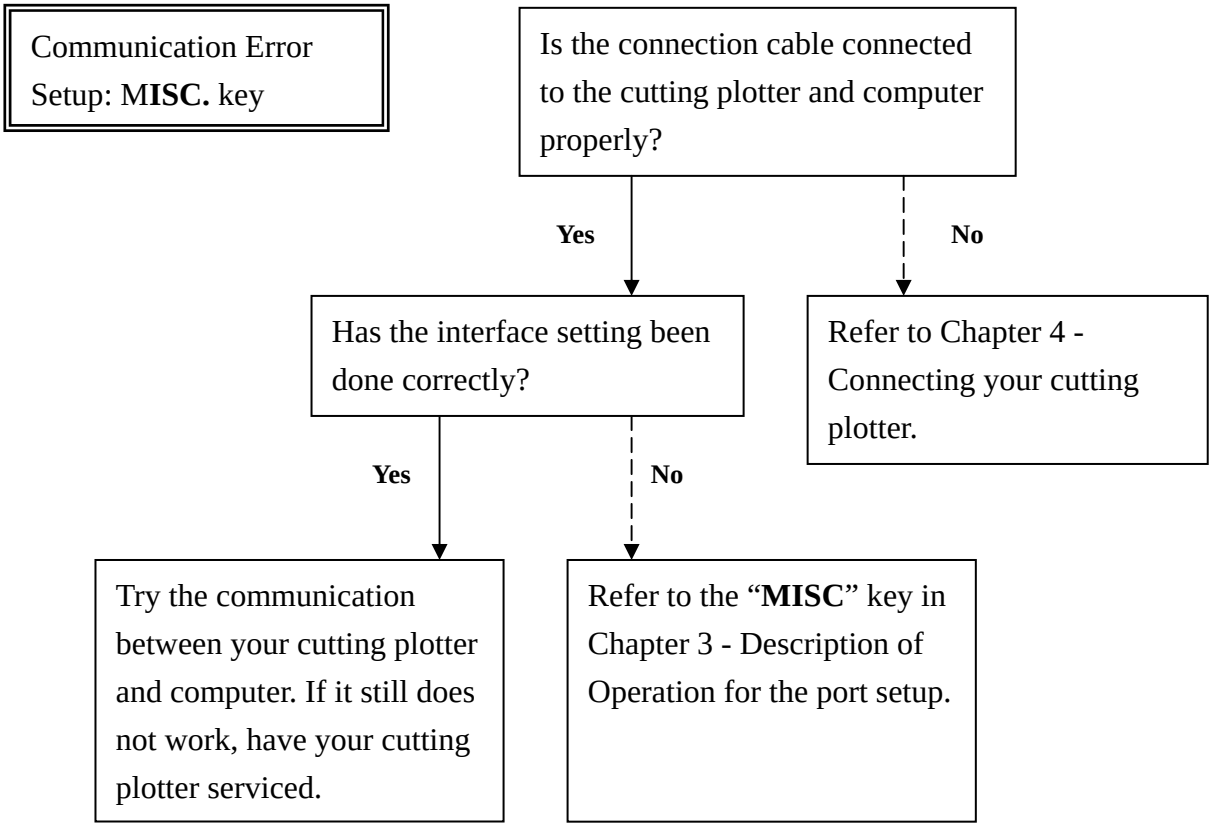
7.2 Operational Problems

Some mechanical problems or failure during operation will cause some problems. The error messages shown on the LCM present the problem first, and followed by recommended actions. If the problem still exists after the recommended actions have been done, have your cutting plotter serviced.

Error, Check Media Or Drum or X Motor	This message indicates that there might be a problem on the **X axis**. Check if the drum is working well and if the media is well loaded. Correct the problem and re-power on to reboot system.
Error, Check Media Or Y Motor	This message indicates that there might be an obstruction to carriage relating to a problem on the **Y axis**. Correct the problem and re-power on to reboot system.
Error, Check Carriage Sensor or VC Motor	This message indicates that the blade up/down sensor malfunction. Re-power on to re-boot system. If the problem still exists, find a serviceman.
Graph Was Clipped. Data In Buffer	This message indicates that the cutting exceeds the cutting limit. Reload larger media or re-scale the plot to a smaller size; then press the key followed by the display of LCM to continue.

7.3 Cutting Plotter/Computer Communication Problems

The messages showed below present problems in relation to cutting plotter/computer communication.


Communication Error
Setup: MISC. key
Is the connection cable connected to the cutting plotter and computer properly?
Yes
No
Has the interface setting been done correctly?
Refer to Chapter 4 - Connecting your cutting plotter.
Yes
No
Try the communication between your cutting plotter and computer. If it still does not work, have your cutting plotter serviced.
Refer to the "MISC" key in Chapter 3 - Description of Operation for the port setup.

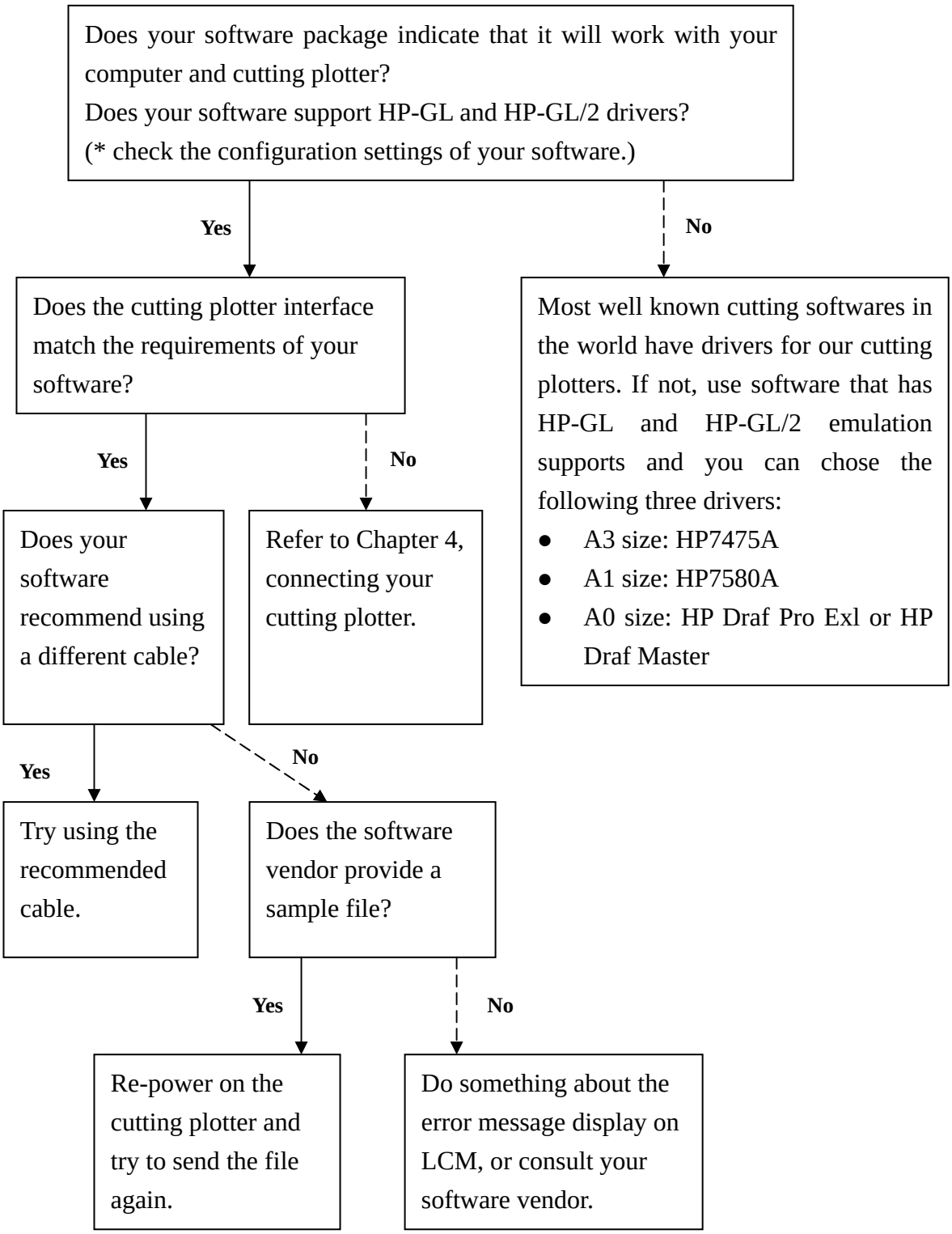
Note:
The computer also needs to set up compatible communication parameters to the cutting plotter set up.

HP-GL/2 Cmd. Error

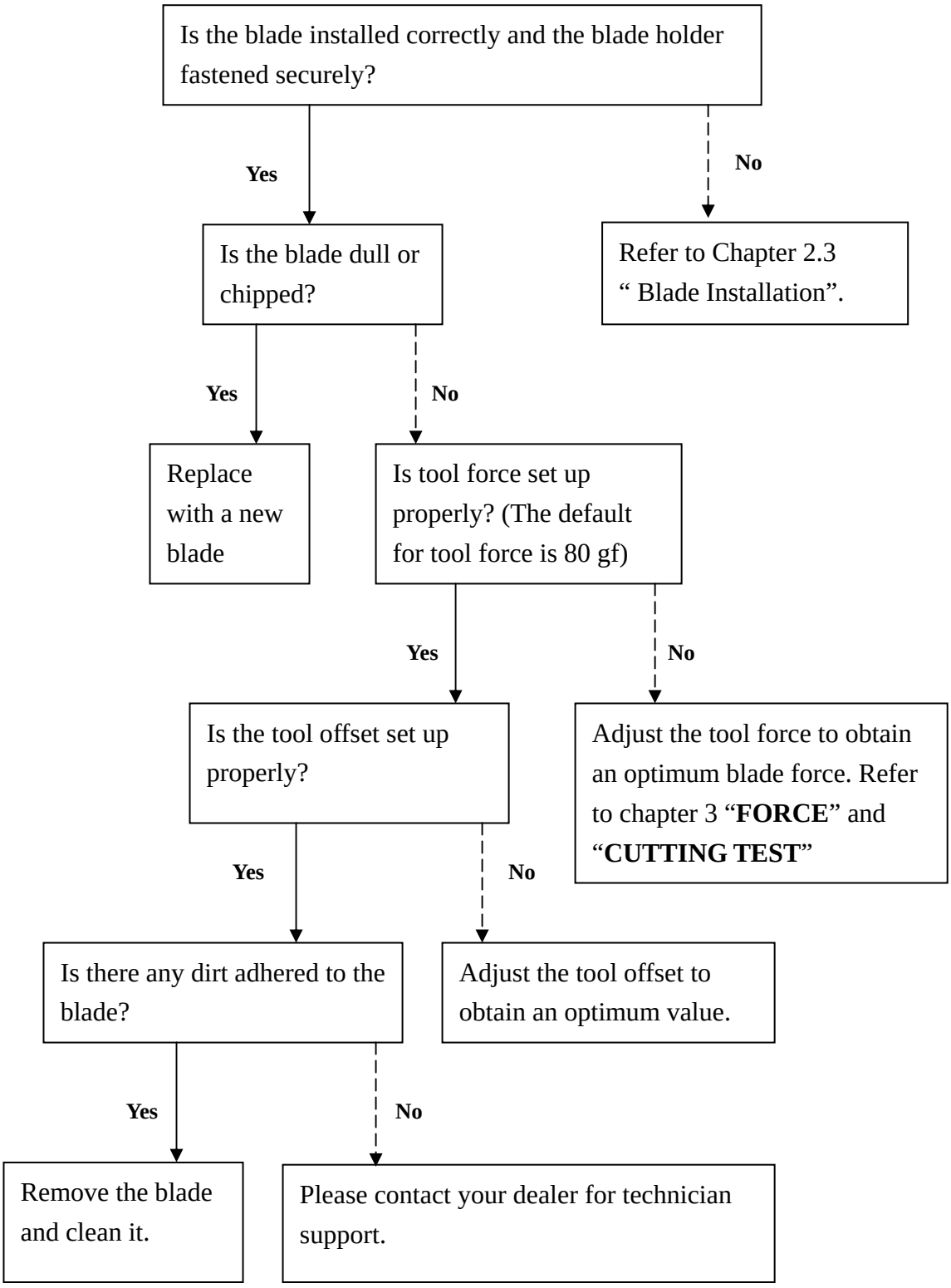
If your cutting plotter can not recognize the HP-GL/2 or HP-GL commands, please check the HP-GL/2 or HP-GL commands applied to your cutting plotter are used properly.

7.4 Software Problems

Check the following first:


Does your software package indicate that it will work with your computer and cutting plotter?
Does your software support HP-GL and HP-GL/2 drivers?
(* check the configuration settings of your software.)
Yes
No
Does the cutting plotter interface match the requirements of your software?
Most well known cutting softwares in the world have drivers for our cutting plotters. If not, use software that has HP-GL and HP-GL/2 emulation supports and you can chose the following three drivers:
A3 size: HP7475A
A1 size: HP7580A
A0 size: HP Draf Pro Exl or HP Draf Master
Yes
No
Does your software recommend using a different cable?
Refer to Chapter 4, connecting your cutting plotter.
Yes
No
Try using the recommended cable.
Does the software vendor provide a sample file?
Yes
No
Re-power on the cutting plotter and try to send the file again.
Do something about the error message display on LCM, or consult your software vendor.

7.5 Cutting Quality Problems


Is the blade installed correctly and the blade holder fastened securely?
Yes
No
Is the blade dull or chipped?
Refer to Chapter 2.3 " Blade Installation".
Yes
No
Replace with a new blade
Is tool force set up properly? (The default for tool force is 80 gf)
Yes
No
Is the tool offset set up properly?
Adjust the tool force to obtain an optimum blade force. Refer to chapter 3 "FORCE" and "CUTTING TEST"
Yes
No
Is there any dirt adhered to the blade?
Adjust the tool offset to obtain an optimum value.
Yes
No
Remove the blade and clean it.
Please contact your dealer for technician support.

Jaguar III Specification

Model Number		JA-61	JA-76S	JA-101S	JA-132S
Operational Method		Roller-Type			
Max. Cutting Width		610mm (24.0in)	760mm (29.9in)	1016mm (40in)	1320mm (52in)
Max. Media Loading Width		770mm (30.3in)	920mm (36.2in)	1270mm(50in)	1594mm(62.8in)
Number of Pinch Rollers		3		4	
Min. Media Loading Width		50mm			
Acceptable Material Thickness		0.8mm (0.03in)			
Drive		DC Servo Control			
Cutting Force		0~600 g			
Max. Cutting Speed		1530 mm/sec (60ips, Diagonal)			
Tangential- emulation		Yes			
Paper Cutting Ability		Yes			
Sliter Groove & Tool		Yes			
Media Basket		Optional			
Acceleration		4.2 G (gravity)			
Offset		0~1.0 mm (with an increase of 0.025mm)			
Mechanical Resolution		0.00625mm			
Software Resolution		0.025 mm			
Repeatability		0.1mm			
Memory Buffer		4 MB			
Interfaces		USB, Parallel and Serial (RS-232C)			
Commands		HP-GL, HP-GL/2			
Configurable Origin		Yes			
Curve & Arc Smoothing		Yes			
Test Cut capability		Yes			
Replot Function		Yes			
Copy Function		Yes			
Pouncing Function		Yes			
Control Panel		LCM (20 digits x 2 lines), 14 Keys, 1 Power LED			
Dimension (HxWxD) mm (HxWxD) in		414 x 930 x 490 16.3 x 36.6 x19.2	1166 x 1080 x 667 45.9 x 42.5 x 26.3	1166 x 1430 x 667 45.9 x 56.0 x 26.3	1166 x 1754 x 667 45.9 x 69.1 x 26.3
Net Weight (kg)		37.2kg	40.5kg	53.3kg	61.0kg
Power Supply		AC 100~240V (auto switch)			
Power Consumption		Max. 110watts			
Environment Humidity		25% ~ 75% relative humidity (operating)			
Environment Temperature		5°C~35°C / 41°F~95°F			
Accu-Aligning System	Sensor Area	15mm * 12mm			
	Repeatability	±0.05~0.1mm (± 1~2 pixels)			
	Distance Accuracy	±0.1mm			
	Resolution	500dpi			
	Materials	Light-colored Vinyl (Not for highly-glossy surfaces)			

- The above specification is subject to change without prior notice.
- Stand for Jaguar JA-61 is optional.

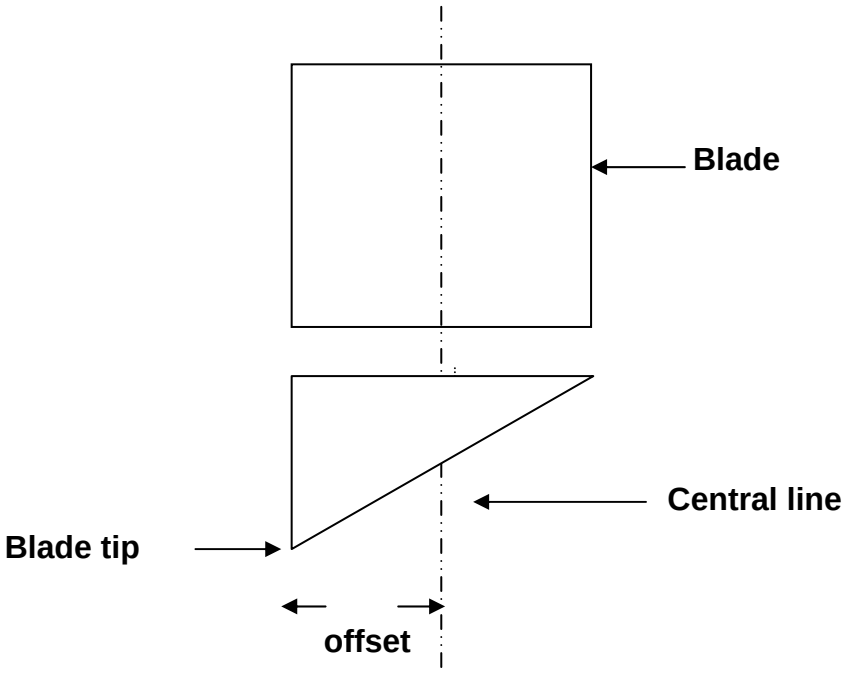
Blade Specification

26500056 GCB-145S	For cutting general signage vinyl. Blade with largest angle. The blade is 45 ° with **Yellow Cap**, 0.25 mm blade offset
26500057 GCB-245R	For cutting thick fluorescent and reflective vinyl. Also for cutting detailed work in standard vinyl. The blade is 45° with **Red Cap**, 0.25 mm offset
26500058 GCB-360SB	For cutting reflective vinyl, cardboard, sandblast, flock, and stencil sharp edge. The blade is 60° with **Green Cap**, 0.50 mm blade offset
26500059 GCB-460SO	For cutting thin sandblast mask and stencil with friction feed or sprocket feed machine. The blade is 60° with **Blue Cap**, 0.25 mm blade offset
26500060 GCB-500	For Cutting small text and fine detail. Sharp blade with smallest offset. The blade is 0.175 mm blade offset with **Black Cap**

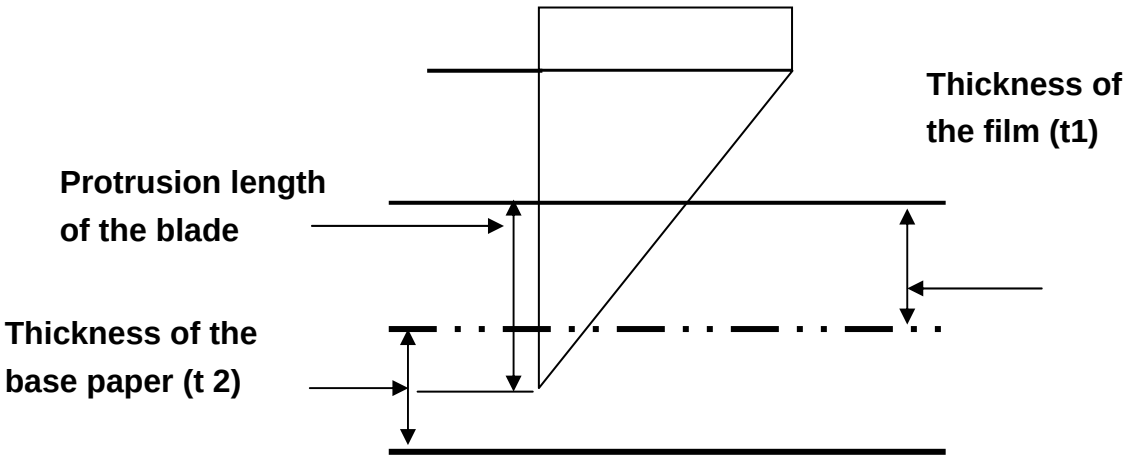
About the Tool

A generic term referring to the blade that cuts the sheet, the pen that does plotting, and the LED bombsight (option) used for pointing to the reference point.

OFFSET is the distance that the blade tip is displaced from the centerline of the blade.



Protrusion Length of the Blade



Length of protrusion = t1 + t 2/ 2, but for your convenience you may just make it about 0.3~ 0.5 mm beyond the blade holder tip.